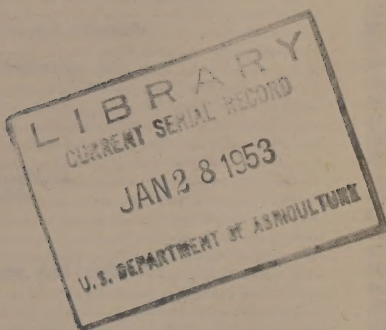


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**REPORT OF THE ADMINISTRATOR  
OF THE  
PRODUCTION AND MARKETING  
ADMINISTRATION  
1952**



**UNITED STATES DEPARTMENT OF AGRICULTURE**

REPORT OF THE ADMINISTRATION

OF THE

INDUSTRIAL AND MARKETING

ADMINISTRATION

1933



UNITED STATES DEPARTMENT OF AGRICULTURE

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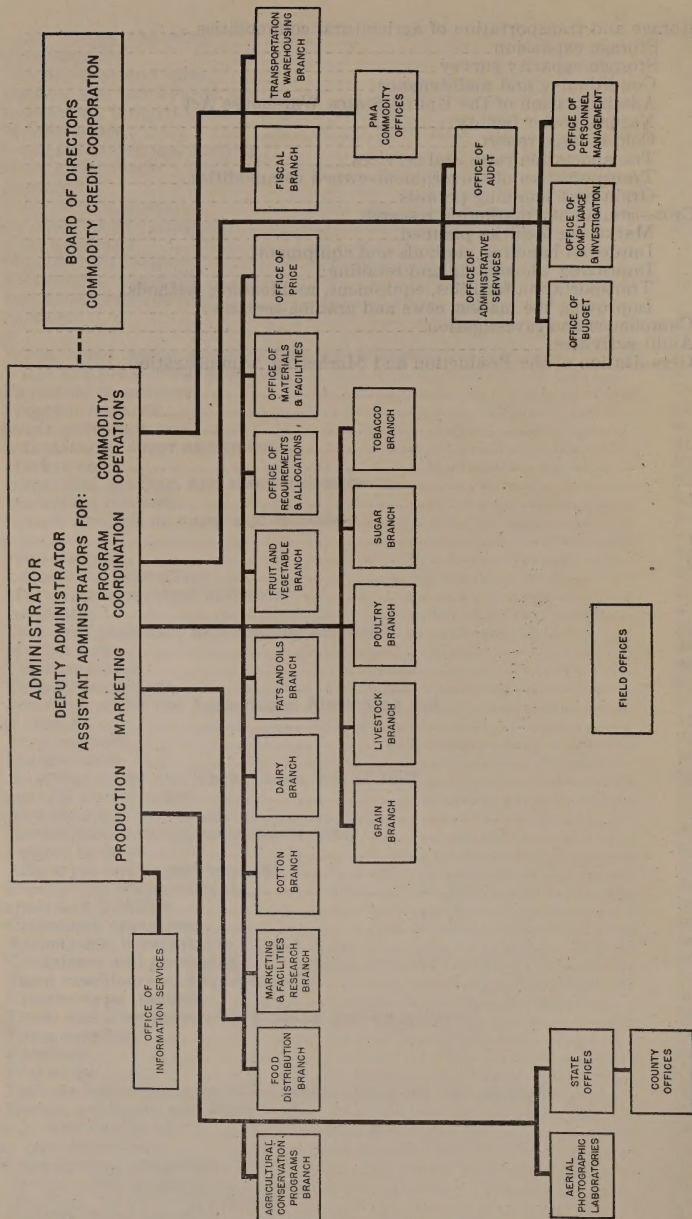


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# ORGANIZATION CHART OF THE PRODUCTION AND MARKETING ADMINISTRATION



## **Report of the Administrator of the Production and Marketing Administration, 1952**

UNITED STATES DEPARTMENT OF AGRICULTURE,  
PRODUCTION AND MARKETING ADMINISTRATION,  
*Washington, D. C., October 15, 1952.*

HON. CHARLES F. BRANNAN,  
*Secretary of Agriculture.*

DEAR MR. SECRETARY: I present herewith the report of the Production and Marketing Administration for the fiscal year ended June 30, 1952.

Sincerely yours,

GUS F. GEISSLER,  
*Administrator.*

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### **THE YEAR IN PERSPECTIVE**

The Production and Marketing Administration took an active part during the fiscal year 1952 in the broad United States Department of Agriculture program to maintain high-level output and effective distribution of agricultural commodities. This over-all program was highly successful. In spite of poor growing conditions in many parts of the country, total agricultural production for sale and home consumption was the highest of record. This abundance moved through marketing channels in an orderly manner; no serious shortages developed among domestic, foreign, and military users, and the general level of prices received by farmers held steady throughout the 12-month period at an average only slightly above parity.

### **Production Programs and Problems**

Although the excellent production effort turned in during the year is gratifying, there are factors in the current and long-range supply-demand picture that call for careful consideration. It is sobering to reflect that, despite a record agricultural output, market supplies of some important foods have been only a little larger than effective demand, and that reserves of essential livestock feed actually have declined. These trends point to one fact: Agricultural problems from now on will tend to revolve around producing up to demand rather than adjusting down to demand.

The need for heavy agricultural production during the present emergency is obvious. Civilian demand for farm products is unusually high; and unless supplies can be kept reasonably in step with this demand, inflationary pressures and food shortages are inevitable. From the standpoint of military requirements, it is sufficient to say that food is as important to fighting men as weapons—both are indis-



pensable. As an instrument of foreign policy, food, like many other materials, becomes a munition as we link our defense efforts with those of other freedom-loving countries.

But the need for accelerating production of food and fiber in future years also is obvious when the continued growth of population is considered. The population of the United States is now increasing at the rate of about 2,700,000 persons per year. It is estimated that by 1975 the population will reach 190,000,000, an increase of 38,000,000 or a fourth over the population in 1950. This means that for every 4 persons who sat down to the dinner table in 1950, there will be 5 persons sitting down to dinner in 1975.

If consumption stays at the same level as today, to fill this "fifth plate" will require about 5,500,000,000 pounds more of red meat than we produced in 1950, about 10,000,000,000 more quarts of milk, and about 1,250,000,000 dozen more eggs. In terms of over-all farm production, this means an increase each year for the next 24 years, including 1952, of about the same amount that production increased in each of the last 5 years—or roughly a total increase of 20 percent above the 1950 level.

If we had the land, this increased production could be obtained by the simple expedient of plowing up additional acres and seeding the crops we need. Unfortunately, we don't have the land. We already are employing about all the land readily available for crop use, and even with the land that can be brought into production through drainage, irrigation, and other means, we would still fall short of obtaining needed farm output. All this means that, instead of obtaining production "expansively," from increased acreage, we must obtain our larger output "intensively," from higher yields on about the same acreage we have now.

Current programs of PMA are designed to obtain maximum production from land resources available. These same programs, with improvements and modifications, can help to supply the production that will be needed in the years that lie ahead.

### ***Agricultural Conservation***

In 1936, Congress authorized the establishment of an agricultural conservation program, which made it possible to help farmers to finance the cost of carrying out soil- and water-conserving practices. This program, designed to meet both current and long-range production needs, emphasizes practices (1) to maintain or increase soil fertility; (2) to control and prevent erosion; (3) to make better farm use of water; and (4) to conserve and increase range and pasture forage.

The financial assistance has provided the "push" needed to start farmers down the conservation road. Matching with their own funds and labor the assistance provided under the program, farmers have more than doubled the conservation that would have been brought about through use of appropriated funds alone. This "conservation consciousness" on the part of farmers has aided vastly in protecting soil and water resources which, once lost, require much time and money to restore. It is also fair to say that this country could never have discharged all its food responsibilities during the war and since the war without the millions of tons of food added to total output through the agricultural conservation program.

Practices carried out by farmers under the program in the fiscal year 1952 included contour farming; strip cropping; seeding pastures and range land; planting cover crops; constructing terraces, reservoirs, and dams; building sod waterways; and applying fertilizer and lime. The agricultural conservation program reached 2,357,000 farms or ranches, representing 58 percent of the Nation's total cropland. Funds available for the program in the fiscal year 1952 totaled \$260,000,000, with assistance to individual farmers limited to \$2,500. PMA worked very closely with the Soil Conservation Service, the Forest Service, and other Department agencies in carrying on the agricultural conservation program in line with the policy established in Secretary's memorandum 1278. The cooperation was even more effective by virtue of the fact that all Department agencies were housed in the same building in many States and counties.

Now, through improvements to the program, prospects for meeting heavy future food needs will be enhanced. The improvements, encompassed in a so-called farm-by-farm-first-things-first approach, were carried on in 1 county in each State (2 in Iowa and Nevada).

Good results were obtained in the 50 counties where the program was in operation in 1952. For one thing, participation was higher than in the preceding year, 54,968 farms requesting assistance, as compared with 38,095 receiving assistance in 1951—an increase of 44 percent. More important were the shifts in type of practice. In 1951, about 18 cents of every dollar spent for conservation in the 50 counties went for annual practices, such as the planting of green manure and cover crops, whereas in 1952 less than 14 cents were spent for such practices—a decrease of almost 25 percent. At the same time, the proportion spent for “durable” practices, such as construction of dams, ditches, and terraces, increased from about 22 cents to 27 cents, or a gain of about 24 percent. There was little change in term practices, which include seeding of pastures and application of minerals. On the basis of the encouraging results obtained in the test counties, the new-type program will be in general operation throughout the country in 1953.

PMA's policy on the 1953 program has been expressed as follows, in material going to State, county, and community committeemen: “Every effort is to be made to see that the program assistance is directed to those soil and water conservation practices which farmers would not carry out to the extent necessary for the national welfare without this assistance. Every effort is to be made to see that program assistance is shifted away from those practices which are becoming established in farmers' regular operations on their own farms. This assistance is to be used to encourage and aid farmers to carry out conservation over and above what they would do with their own resources and on their own initiative. The practices to be included at the local level and for individual farms should be aimed toward the most permanent benefit to the productive capacity and conservation of the agricultural resources of the area.”

There is every reason to believe that the farm-by-farm-first-things-first approach to conservation will mean greatly increased conservation for each dollar spent and a much larger food-producing potential on farms in years to come.



### ***Materials, Machinery, and Facilities***

High-level production will depend upon availability of such materials as fertilizer and pesticides, farm machinery, and other items essential to farmers.

Forty years ago farmers produced most of their own power in the form of work animals; raised most of their own "fuel"—livestock feed; and depended mainly on farm-produced fertilizer. How this picture has changed. Now farmers require each year 7,000,000 tons of finished steel, 50,000,000 tons of chemical materials; 16,500,000,000 gallons of crude petroleum equivalent; 320,000,000 pounds of raw rubber; and 15,000,000,000 kilowatt-hours of electric power. In other words, the modern farmer must have a great deal of help from the nonfarm industries producing goods and services essential to high-level agricultural production. This flow of goods and services cannot be interrupted without serious effects on farmers' productive capacity.

Facts and figures on farmers' minimum production needs were collected by PMA last year and presented to the defense agencies allocating scarce materials. Under its delegated authority, PMA also made recommendations for accelerated tax amortization, certified applications for defense loans, allotted controlled materials required for agricultural construction, and advised on certain priorities. Through these efforts, supplies of materials, machinery, and facilities needed by farmers were generally adequate during the year. The outlook for 1953 is a little less favorable, however, because the effects of the steel strike that took place near the close of the fiscal year may be felt adversely in the manufacture of some items, especially farm machinery.

The importance of fertilizer in the long-range program to expand agricultural production can hardly be overstated. A study by the National Soil and Fertilizer Research Committee of the State Agricultural Experiment Stations and the United States Department of Agriculture shows that farmers in the North Central States could increase yields of corn by 250,000,000 bushels, by tripling the current rather low-average rates of fertilization. More fertilization would boost wheat yields by 48,000,000 bushels in the Western States. A 30-percent increase in pasture yields could be achieved in the Northeastern States merely by using the same rate of fertilization that is now used on corn—and when much higher rates have been combined with the use of improved grasses and legumes, yields have been increased by more than threefold.

Much progress was made on the Department's special program to increase fertilizer production—a program with which PMA cooperated actively in the way of maintaining necessary liaison with the defense agencies. Through the efforts of all concerned, a nitrogen expansion program was started just before the beginning of the fiscal year that will ultimately result in an increase of about 70 percent in nitrogen-producing capacity. A similar program to expand phosphate production was being planned with defense agencies at the end of the year, although the outlook for early success is clouded by present limited supplies of sulfur and sulfuric acid. Apparently no insurmountable difficulties surround expansion of potash production.

### ***Agricultural Manpower***

PMA worked closely with the Department of Labor, the Selective Service System, the Department of Commerce, the Department of



Defense, and other agencies whose activities directly or indirectly affect the supply of manpower available to agriculture. Major stress was placed on the basic importance of agriculture in the defense effort, the necessity for maintaining an adequate agricultural work force—through the retention of essential workers, their effective utilization, and the recruitment of new workers. Through the combined efforts of the agencies concerned—and the excellent cooperation of farmers—there was no major crop loss in 1952 because of manpower shortages.

### ***Production Programing***

High-level production will depend to some extent upon careful production programing.

Through production goals established for 1951 crops, primary emphasis was placed on the commodities most urgently needed—feed grains, particularly corn, so as to maintain an increasing livestock population; and cotton, to close the gap left by an unusually small 1950 crop. Production in 1951 tended to follow the general pattern indicated under the goals program. Somewhat similar production objectives were established for 1952—feed-grain goals were set high, especially for corn and sorghum grain, and continued high output was requested for cotton, soybeans, wheat, and vegetables. The goals program undoubtedly brought about a more balanced production in 1952 than would have been the case otherwise.

It is not possible, of course, to make all the precise adjustments called for by the goals, because of adverse weather and other factors. It was apparent at the end of the fiscal year, for example, that the 1952 goal of 16,000,000 bales of cotton would not be reached, primarily because of severe drought conditions in the Southern States. The goals approach, however, appears to be one of the best devices yet developed for focusing farmers' attention on specific acreage and production objectives, and there is evidence that farmers welcome guidance based on reviews of national requirements when it comes time to make production plans. Establishment of yearly goals, even after the present emergency is over, is a matter that deserves careful consideration.

## **Price Programs**

### ***Price Support***

High-level production will depend upon steady agricultural income.

Much attention has been given the fact that mechanization of farms, improved varieties of seed, widespread use of fertilizers and insecticides, and other technological advances have raised the level of agricultural production. Not so much attention has been given the parallel fact that this increase in production has been accompanied by progressively heavier cash expenditures by farmers.

Agricultural production in 1951 was 40 percent above the 1935-39 average and 69 percent above the 1910-14 level. But production expenses in 1951, in terms of 1910-14 dollars, averaged \$7,750,000,000, compared with \$4,572,000,000 in 1935-39, and \$3,805,000,000 in 1910-14.

As late as the early 1930's, farmers could reduce their purchases of manufactured goods without a great loss of output. But from now on, the dependence of farmers upon industrial goods and services, pro-

duced by people who might be called "farmers not living on farms," will continue to grow. This can mean only one thing. If low prices undermine farmers' ability to purchase production essentials, farm output will inevitably be affected.

The importance of price support was stressed throughout the year in informational material prepared by PMA for farmers' use. It was pointed out in this material that loans and purchase agreements provide price protection during the critical harvest period, when prices often are at their lowest point. Later, if prices improve, farmers have the privilege of selling their commodities on the open market or, if prices fail to rise, of delivering the commodities to CCC under terms of their loan and purchase agreement documents. Either way, price support makes for orderly marketing. If lack of storage prevents participation in the price-support program, loans are available from the CCC for the construction of cribs and bins that meet CCC requirements. Obtaining price support involves very little "paper work," and PMA county committees stand ready to help applicants fill out the few forms necessary.

Price guarantees undoubtedly encouraged farmers to produce abundantly in the fiscal year 1952. Support was mandatory under price legislation for wheat, corn, cotton, peanuts, rice, tobacco, milk, butterfat, wool, mohair, honey, and tung nuts. Other crop support under permissive provisions of the price law were barley, oats, rye, sorghum grain, flaxseed, soybeans, dry edible beans, American Egyptian cotton, cottonseed, crude pine gum, hay and pasture seeds, and winter cover crop seeds. As it turned out, the general level of prices received by farmers in relation to their living and production expenses was favorable, the parity ratio averaging 3 percent above parity for the July 1, 1951-June 30, 1952, period. Support extended on 1951 crops totaled \$1,060,900,000, as compared with \$1,163,200,000 on 1950 crops. The net realized loss on the price-support program was \$67,352,000 in the fiscal year 1952, as compared with \$345,599,000 in the fiscal year 1951.

Over-all administration of the price-support program was improved, PMA feels, by broadening farmer-committeeman participation at the county level. But normal trade channels continued to be used, as in other years, to the maximum extent possible.

Loan operations were formerly handled by eight PMA Commodity Offices, but the time consumed in long-distance transmission of loan documents made it difficult for the producer to sell his commodities to advantage on a fluctuating market, and the delay in acquiring loan documents from lending agencies discouraged farmers from redeeming loans when market prices were above loan levels. In some years, as a result, CCC was forced at maturity of the loans to take over collateral that might otherwise have moved into commercial channels.

Under the new procedure, loan documents are maintained for the most part either in local lending institutions or in county offices, where the documents are immediately available. This procedure, in the short time it has been used, has made for a more flexible and hence a more satisfactory program for farmers. In addition to localizing the position of loan documents, PMA county committees also have been given the responsibility for "processing" warehouse- and farm-storage loans, making country warehouse inspections, handling loan redemptions, and related local activities.

### ***Commodity Reserves and Storage***

Price-support facilitates the accumulation of commodity reserves, a matter that will require increasing attention in the years to come.

At one time we looked upon above-average supplies of grain and cotton as "burdensome surpluses" that should be disposed of as rapidly as possible. But events following Pearl Harbor and the invasion of South Korea showed us that these supplies were not burdensome surpluses at all—that they were, actually, vital national assets that could quickly be converted into the meat, milk, poultry, eggs, textiles, and other products needed to meet demands heightened by heavily increased purchasing power.

Leaving war and defense emergencies out of the picture, we must plan from now on to maintain larger reserves than once were thought necessary. Our expanding population, and the ever-unpredictable weather—to mention only two factors—give us no other alternative. In 1947, for example, a peacetime year, growing conditions over a large part of the Middle West were unfavorable and an unusually small corn crop was harvested. Had reserves of 600,000,000 bushels of corn or corn equivalent been available, the resultant decline in livestock numbers on farms could have been prevented.

New targets for commodity reserves were set in May 1952, when the Senate Committee on Agriculture and Forestry released a report, entitled "Reserve Levels for Storable Farm Products," based on a study by the Bureau of Agricultural Economics. A reasonable objective, the report indicated, would be stocks large enough to offset one very low yield and one moderately low yield in sequence, while maintaining minimum working stocks. Year-end carry-overs that would meet this objective would be 4,500,000 to 5,000,000 bales of cotton, 450,000,000 to 500,000,000 bushels of wheat, and 900,000,000 to 1,000,000,000 bushels of corn. Moderate stocks of the other feed grains also would be needed—probably not more than 100,000,000 bushels of corn equivalent beyond working stocks. All these levels strike PMA as being highly desirable.

The need for higher reserves does not mean, of course, that surpluses are a thing of the past. Surpluses of some crops are bound to occur from time to time—and they will be, as always, troublesome. But production programing and the operation of allotment and quota provisions of the Agricultural Adjustment Act of 1938, as amended, will tend to make the appearance of surpluses less frequent. Considering the larger needs of a growing population, the surpluses that do appear probably will be of a more temporary nature than was once the case.

Every effort was made to maintain storage capacity at a high level. Capacity owned by the Commodity Credit Corporation at the end of the year totaled about 545,000,000 bushels. Construction by farmers of on-farm storage structures having an aggregate capacity of 36,000,000 bushels was completed under the CCC's farm-storage-facility loan program. Furthermore, grain-storage space made available through CCC's storage guarantee program totaled about 76,000,000 bushels at the end of the year. Storage capacity licensed under the United States Warehouse Act reached an all-time high peak.



### **Grain Conversion**

Of great concern to PMA in its administration of storage operations was the unusual number of cases involving illegal appropriation or "conversion" of CCC-owned grain by commercial warehousemen.

The conversion cases actually had their genesis back in 1948 when the combined production of six grains—corn, wheat, oats, barley, sorghum grain, and rye—was 6,963,000,000 bushels, an all-time high record. Of this total, 1,031,000,000 bushels of 1948-crop grain were supported under loans or purchase agreements. Much of this grain was acquired by CCC in 1949 when loans became due and when farmers exercised their option of selling under purchase agreements.

Finding storage for this flood of "price-support" grain was a tremendous problem for PMA in 1949. Under authority of an amendment to the Commodity Credit Corporation Charter Act, structures were purchased in which to store CCC-owned grain where commercial facilities were inadequate. Loans were made to farmers for construction of farm-storage facilities. Some grain was "resealed"—retained on farms for a second year instead of being delivered to CCC. Idle buildings of the Army, Navy, and Air Force were used for grain storage—and Maritime Commission ships anchored in the Hudson River furnished some space. But, in line with Federal law and established CCC policy, commercial storage was used to the maximum extent possible. Construction of commercial grain-storage facilities was encouraged where necessary through guarantees that CCC grain would be stored in new structures or in new additions to existing structures. And CCC, as it had done in other years, negotiated "uniform grain-storage agreements" with about 9,000 commercial warehousemen.

Although the vast majority of these agreements worked out satisfactorily for all concerned, a few warehousemen out of the many doing business with CCC turned out to be dishonest. From facts subsequently uncovered, it is apparent that some warehousemen deliberately set out to defraud the Government and other users of their facilities. Most of the cases, however, grew out of speculations by warehousemen who assumed, erroneously, that CCC-owned grain illegally sold at a high price could be replaced later with other grain purchased cheaply.

One case investigated by PMA is typical of many others. This case, involving an elevator at Farwell, Tex., began when the PMA Commodity Office at Dallas requested an investigation because of the elevator's failure to ship out CCC-owned grain upon request. PMA investigators found very large shortages of sorghum grain and wheat. The case was referred, through the Department of Agriculture's Office of the Solicitor, to the Department of Justice, which filed a claim to recover money due CCC. Later a receiver was appointed. The owner of the elevator was indicted, brought to trial, sentenced to 4 years in prison, and fined \$10,000. Continuing efforts will be made to recover money due the Government.

In October 1951, a Subcommittee of the House Committee on Appropriations conducted an investigation of CCC storage operations. In November 1951, the General Accounting Office investigated some aspects of the storage program. In January 1952, the Senate Committee on Agriculture and Forestry held hearings on the conversion cases and storage policies. Information already developed by PMA investigators and auditors was made available to the Congressional

Committees and the General Accounting Office and was the principal basis for their reports.

In a report dated June 4, 1952, to the chairman of a subcommittee of the House Committee on Appropriations, PMA summarized statistics on warehouse conversion cases for the 5-year period, July 1947-June 1952, as follows: 68 cases had been referred to the Department of Justice, of which 36 involved court action, leaving 32 not yet in court. A total of 30 cases was under study by regional attorneys of the Department of Agriculture's Office of the Solicitor, and 33 cases were still under investigation. The total amount involved in the 131 cases was approximately \$7,820,000. It is believed that ultimate losses to the CCC out of this total reported to the Subcommittee will not exceed \$1,000,000. Determined efforts will be made to collect from warehousemen guilty of conversion, individuals purchasing converted grain, and bonding companies—and receivership or bankruptcy proceedings will help to reduce losses.

Steps already were being taken in June 1951 to reexamine all aspects of the commodity storage programs. When conversion cases began to come to light in numbers theretofore unsuspected, the tightening-up process was hastened.

PMA Commodity Offices were instructed (1) to investigate all warehousemen not complying with delivery instructions; (2) to investigate all reported or suspected cases of conversion; (3) to report to regional attorneys of the Office of the Solicitor any facts indicating conversion with a request that civil action and criminal prosecution be undertaken; (4) to increase bonds required of warehousemen where justified; and (5) to remove from the list of approved warehouses any that were in a doubtful financial status or those that failed in general to measure up to CCC standards. Close liaison also was established between PMA Commodity Office and United States Warehouse Act officials so as to provide a cross check on warehousemen failing to meet CCC standards.

In April 1952, the CCC Board of Directors prescribed new procedures and policies for approval or disapproval of warehousemen wishing to store CCC-owned commodities. These standards apply to adequacy of plant and equipment; ability and experience of the warehouseman or his employees; Federal, State, or local licensing of the warehouse; net worth of the warehouseman; performance of the warehouseman under previous contracts with CCC; compliance of the warehouseman with regulations of licensing authorities; and the record of the warehouseman with respect to pending cases involving fraud or other dishonest acts.

Bond requirements of warehousemen storing both bulk and processed commodities were increased sharply by the CCC, and similar action was taken by PMA with respect to warehousemen licensed under the United States Warehouse Act. The new standards also require regular inspections of warehouses—twice a year for bulk commodities and four times a year for processed goods—and physical inventories are to be made on at least one of these inspections. The inspections will deter conversion and, equally important, permit a regular check-up on the way commodities are holding up in storage.

PMA also has increased the staffs of both its Office of Audit and Office of Compliance and Investigation. The auditors will make numerous spot checks; the investigators will look into any circumstances

indicating failure of warehousemen to comply with their contracts.

It would be highly unrealistic to assume that these corrective actions will eliminate once and for all any irregularities connected with grain storage—particularly in years when the volume stored is unusually large. But the new standards for approval of warehousemen, the higher bonding requirements, and the more numerous checks and cross checks on warehouse operations are expected to reduce irregularities to a minimum.

### *The International Wheat Agreement*

The sales quota guaranteed the United States for the third year of operations under the International Wheat Agreement, ended July 31, 1952, was 255,148,630 bushels. As of June 30, 1952, exports to 41 countries aggregated 254,787,000 bushels of wheat or wheat-equivalent in the form of flour. All wheat was sold at or near the agreement's maximum price—the equivalent of \$1.80 per bushel, basis bulk wheat in store at Fort William-Port Arthur, Canada, in terms of United States currency.

During the fiscal year 1952, a total of 199,241,000 bushels of wheat and wheat-equivalent were shipped under the agreement by commercial exporters, who received from the Corporation export payments aggregating \$128,085,000, or an average of 64.3 cents per bushel. In addition, the Corporation provided 55,546,000 bushels of wheat from its own stocks at prices that represented an aggregate difference of \$38,844,000 between current market prices of wheat and the International Wheat Agreement price, or an average difference of 69.9 cents per bushel. The difference on the total 254,787,000 bushels exported during the year was \$166,929,000, or 65.5 cents per bushel.

Discussions relating to an extension of the agreement, due to expire on July 31, 1953, were opened at the Eighth Session of the International Wheat Council in London, April 17 to May 9, 1952. The Council will reconvene in Washington, D. C., on January 30, 1953, to resume discussions.

### *Surplus Removal Operations*

Section 32 of Public Law No. 320, Seventy-fourth Congress, provides funds annually for the purpose of widening markets for farm commodities through encouragement of exports, increased domestic distribution, or diversion to new markets or new uses. The following tabulation shows how Section 32 funds were spent in the fiscal years 1951 and 1952:

	<i>Fiscal year 1951</i>	<i>Fiscal year 1952</i>
Project obligations:		
Exports.....	\$24, 885, 128	\$16, 763, 083
Direct distribution.....	13, 478, 840	33, 203, 439
Diversion.....	2, 003	1, 284, 537
Administrative expenses.....	3, 717, 996	3, 032, 938
Total above projects.....	42, 083, 967	54, 283, 997
Allotments and transfers to cooperating agencies.....	223, 571	254, 180
Total obligations.....	42, 307, 538	54, 538, 177
Unobligated balance (available for use in future programs).....	116, 811, 374	221, 159, 943
Total funds available.....	159, 118, 912	275, 698, 120



### ***Sugar Programs***

Sugar prices were relatively stable through operations under the Sugar Act of 1948. The generally quoted price of refined cane sugar declined from a high of 8.75 cents per pound early in the fiscal year to 8.15 cents near midyear, but by the end of the year had increased to 8.80 cents. Estimated sugar requirements were reduced in the calendar year 1951 from 8,250,000 short tons, raw value, to 7,900,000 tons, and were set at 7,700,000 tons for the calendar year 1952. Payments made to producers complying with labor, wage, price, and marketing requirements of the act totaled approximately \$60,000,000.

### ***Marketing Agreement and Order Programs***

Federal orders regulating the handling of milk increased from 41 to 45, the new orders covering the Neosho Valley (Kansas-Missouri); Cedar Rapids-Iowa City, Iowa; north Texas (Dallas and Fort Worth); and San Antonio, Tex. A total of 26 marketing agreement and order programs was in effect for 20 fruits, vegetables, and tree nuts and for one type of tobacco.

### ***Marketing Programs***

The emphasis being placed on high-level production has thrown a correspondingly heavier load on the marketing system. This burden has greatly increased the importance of bringing about more effective distribution through marketing service, regulatory, and research activities.

Effective distribution, for example, reduces physical waste of food. If there is any truth to the saying that a penny saved is a penny earned, then it is equally true that every pound of food not wasted, through effective distribution methods, is a pound of food produced. When it comes to a few highly perishable foods, avoidance of waste would provide the increase in supplies needed by our expanding population without any special efforts to raise production levels.

PMA's marketing programs also are aimed at reducing the cost of channeling food from the farm to the dinner table. The farmer's share of the consumer's food dollar averaged 49 cents in the fiscal year 1952, which means that 51 cents were spent in marketing channels. Any reduction that can be brought about in these marketing charges tends to work backward in the form of increased returns for producers, and forward in the form of lower retail prices to consumers.

These marketing activities of PMA are widely varied, and they operate at all stages of the marketing process. For farmers, the activity may consist of a new grade standard or a better container. For shippers and transportation agencies, it may be research that turns up a new way to load freight cars to reduce breakage or spoilage of commodities in transit. For wholesalers, it may be detailed plans for a modern produce market or increased market news coverage. For retailers, it may be suggestions for improvement in methods, equipment, and layout for handling groceries. And for consumers, it may be advance information on the foods that will be in abundant supply and most likely to be relatively low in price.

In carrying on its marketing activities, PMA cooperates with many agencies, groups, and individuals. Cooperation with State agencies is especially important in the conduct of marketing service work.

### **Marketing Research**

Practical benefits resulting from PMA's research on marketing appeared on a considerable scale in agriculture and related industries during the last year. At the same time, research on many phases of marketing continued and in some instances moved into new fields. Most of this research was carried on under the Agricultural Marketing Act of 1946 (RMA, Title II), but some of it was conducted with regularly appropriated funds.

A few examples will show some of the practical benefits growing out of the research program.

Producers stored a larger-than-usual volume of soybeans on farms in 1951, following widespread press coverage of a research report showing advantages of such storage. PMA estimates that these producers received \$50,000,000 more in returns for the soybeans than they would have received had they sold at harvesttime prices—the usual practice in other years.

A study of poultry farmers' practices in relation to the quality of the eggs they market showed that producers who followed seven recommended practices were marketing eggs that were 90 percent grade A, whereas those who followed none of the recommended practices were selling eggs that were only 55 percent grade A. Another study designed to improve egg marketing showed that eggs sprayed for a short time with hot oil, through an inexpensive process called "thermostabilization," kept much better in storage than eggs receiving the usual cold-oil treatment.

Research on methods of receiving and placing boxed apples in storage in the Washington State producing area pointed to possibilities of reducing the man-hours used per 1,000 boxes of apples by more than two-thirds in comparison with methods now commonly used. In the course of the study, a new type of lift truck was developed for piling boxed apples in the upper tiers of high stacks and later taking them down for shipment.

PMA has assisted in planning modern wholesale markets in Hartford, St. Louis, San Antonio, and Columbia (S. C.). Although these four markets cost \$10,000,000—none of this cost involving expenditure of Federal funds—annual savings in distribution costs are expected to exceed \$2,000,000.

More than 3,000 retail grocery stores are known to have installed the checkout counter developed by PMA, which reduces by about one-third the time required to check out customers at the cash register in retail food stores. Studies of methods used in handling groceries by employees of self-service food stores showed how the productivity of labor used in such work could be increased by 75 percent.

The merits of different types of transparent films for packaging dry beans and peas, and rice were studied and recommendations were made as to types to be used in different climates and under various conditions. Recommendations were also made for improved practices in the marketing of Maryland and Virginia sweetpotatoes, which at times have been in overabundant supply. Numerous other fields of marketing were explored and improvements recommended.

### Marketing Services and Regulations

A number of standards for grade were revised in order to keep quality identification abreast of changes in production techniques, marketing practices, and consumer preferences; and some new standards were issued. A considerable part of PMA's standardization work was carried on under authority of and with funds available under the Agricultural Marketing Act of 1946 (RMA, Title II). Grading, inspection, and classing activities, many of them carried on in cooperation with State agencies, continued to show growth.

Market news coverage was tailored to definite needs. Daily meat trade reports were discontinued, for example, and greater emphasis was placed on the weekly review of trade conditions in the six market areas now included in the wholesale meat-reporting program. Under a new agreement with the State of Texas, coverage of the San Antonio fruit and vegetable market and the east Texas sweetpotato producing area was initiated. Regular coverage of market news on inedible molasses was begun; and in Iowa, the poultry market news service was expanded to include, with the use of State funds, daily price quotations for eggs and live poultry.

Licenses in effect under the Perishable Agricultural Commodities Act totaled 24,808 on June 30, 1952, a slight increase over those in effect on the same date a year earlier. Financial adjustments made between parties under authority of the act totaled \$1,259,000—an all-time high. Under the Packers and Stockyards Act a total of 327 stockyards was posted, 4,963 active livestock market agencies and dealers registered, and 1,426 poultry sales agencies licensed. Public hearings were held with respect to 45 of a total of 56 formal proceedings brought against dealers involved in weighing frauds at Chicago, and other legal actions were taken in connection with irregularities at Kansas City, St. Louis, St. Joseph, and Abilene (Tex.).

Original and supplemental registrations of economic poisons under the Insecticide, Fungicide, and Rodenticide Act totaled 7,614, bringing the total number of registrations to 44,100. Of samples examined, 470 were found to be so seriously misbranded, adulterated, or otherwise in violation of the law as to warrant citation or seizure. About 98,000,000 pounds of agricultural and vegetable seeds were admitted from foreign countries under the Federal Seed Act.

### Special Distribution Programs

Exports of food from the United States in the fiscal year 1952 totaled 21,108,000 long tons, as compared with 19,392,000 in 1951, and the record 21,907,000 tons in 1949. Larger exports of wheat and wheat products accounted for much of the increase in export tonnage over the previous fiscal year. India was the largest importer of United States food, 2,800,000 long tons; followed by Western Germany, 2,200,000; Japan, 1,800,000; and the United Kingdom, 1,600,000 long tons.

PMA procured through the Commodity Credit Corporation almost 20 percent of the total export volume. In addition, PMA arranged for the transportation of CCC-controlled export commodities from interior points to seaports and, in some instances, booked ocean transportation. PMA also cooperated with the Defense Transport Ad-



ministration in activities designed to relieve congestion at seaports.

Controls were removed on exports to friendly countries of sugar, cotton, soft cotton waste, wool, wool noils, mohair, inedible molasses, sperm oil, coconut oil, palm oil, and oiticica oil. Export of cotton linters and medicinal castor oil to friendly countries was permitted under a system which, although it applied no quantitative restrictions, permitted a continuing review of exports and supplies. Tung oil and commercial castor oil remained under quantitative restriction at the end of the year.

Allocations of the 1952 packs of canned fruits and vegetables were established during the year to reserve specified percentages of the packs for procurement by the Armed Forces. PMA also prepared current and long-range estimates of civilian food requirements, although it was unnecessary to exercise any claimancy functions in this connection.

A total of 9,320,000 children participated in the national school lunch program—8 percent more than in 1951 and a new high record. The Federal appropriation of \$83,367,000 for school lunch operations was more than matched by contributions, estimated at \$325,000,000, from sources within the States.

Much progress has been made in improving the nutritional quality of school lunches in recent years. In 1944, less than half the meals served were the Type A lunch—the complete meal with milk—which is designed to meet at least one-third of a child's daily nutritional requirements. In 1952, more than two out of every three meals served met the Type A standard. It seems obvious that the larger number of children participating in the program, and the higher quality of the lunches served, have meant an over-all improvement in the nutritional status of school-age children. It seems equally obvious that the program, which helps to develop among children good food habits that carry over into adult life, has formed the basis for a continuing expansion in domestic food markets.

As authorized by Section 416 of the Agricultural Act of 1949, certain perishable foods, acquired under the price-support program at a cost of \$8,692,000, were distributed for school lunch use and the relief of needy groups at home and abroad. Section 32 foods having a value of \$33,203,000 were distributed for school-lunch and relief use in the United States.

PMA continued to cooperate with food-trade groups in the featuring of foods in plentiful supply, the program having the objective of increasing the movement of food through normal trade channels. An average of 17 foods appeared on each monthly List of Plentiful Foods issued by PMA during the year. Thirty-four special food drives were undertaken for such varied items as dairy products, fresh beets, lettuce, pork, and eggs. During these drives, food distributors in major markets concentrated their merchandising effort on a single item to maximize sales during the period of peak supply. Results obtained indicated the value of these drives in increasing the movement of a plentiful food through commercial trade channels, thereby insuring the greatest possible benefits to producers, distributors, and consumers.

(The following 10 sections cover PMA activities as they relate to specific commodities:)

## COTTON AND COTTONSEED

The 1951 cotton crop of 15,072,000 running bales was the eighth largest of record. This crop, plus the carry-over of approximately 2,278,000 bales, provided a supply for the year of about 17,400,000 bales, a little over 4 percent larger than a year earlier. It was estimated at the end of June 1952 that total disappearance of cotton during the 1951-52 season (domestic consumption plus exports) would approximate 15,000,000 bales, the largest disappearance in more than 20 years. The large crop made it possible to remove all export restrictions on cotton early in the 1951-52 season. Prices received by growers for cotton in the 1951-52 season through June 1952 never dropped below the parity level.

### Price-Support Operations

#### *Upland Cotton*

Loans were made during the 1952 fiscal year on 1,115,000 bales of 1951-crop cotton, at an average loan rate of 30.46 cents per pound for Middling  $\frac{7}{8}$ -inch cotton, gross weight, which was 90 percent of the parity price of cotton as of August 1, 1951. The amount placed under loan was 7.4 percent of the 1951 crop of 15,072,000 bales, as compared with only 0.1 percent of the 1950 crop of 9,908,000 bales. The average price of Middling  $\frac{15}{16}$ -inch cotton in the 10 designated spot markets, by months, ranged from a low of 34.97 in August 1951, to a high of 42.23 in December 1951.

During the year producers redeemed 89 bales of 1950-crop cotton and 775,000 bales of 1951-crop cotton.

It was announced before the end of the fiscal year that loans and purchase agreements would be available to producers on 1952-crop upland cotton at 90 percent of parity as of August 1, 1952, or at 30.91 cents per pound, basis Middling  $\frac{7}{8}$ -inch cotton, whichever is higher.

Sales of upland cotton from inventories of the Commodity Credit Corporation totaled almost 84,000 bales. A reserve for producers' equities of almost \$685,000 had been established in connection with 1949- and 1950-crop pooled cotton prior to the end of the fiscal year.

#### *American Egyptian Cotton*

Purchases of 1951-crop American Egyptian cotton totaled 35,647 bales.

A program was announced for the purchase of 1952-crop American Egyptian cotton at an average of 107.10 cents per pound for Grade No. 2,  $1\frac{1}{2}$ -inch staple.

#### *Cottonseed*

Price support was available to farmers for 1951-crop cottonseed as follows: Farm- and warehouse-storage loans and purchase agreements at \$65.50 per ton, basis grade cottonseed, and, in areas where necessary, purchases at the rate of \$61.50 per ton, basis grade cottonseed. The price of cottonseed during the 1951 marketing season stayed above the support level, except in a small area in Louisiana. Because of peculiarly local conditions in that area, CCC purchased 113.54 tons of cottonseed which were the only direct purchases by CCC under the

1951 purchase program. Nineteen farm-storage loans were obtained by producers on 385 tons of 1951-crop cottonseed, all the loans being repaid. No warehouse-storage loans were obtained and no purchase agreements were executed by producers on 1951-crop cottonseed.

It was announced before the end of the fiscal year that prices of 1952-crop cottonseed would be supported by means of loans, purchase agreements, and purchases of cottonseed and cottonseed products. It was stated that farm- and warehouse-storage loans and purchase agreements would be made at the rate of \$66.40 per ton, basis grade cottonseed. It was also announced that, should purchases be necessary, producers would be paid an average price of \$62.40 per ton, basis grade cottonseed, by ginners participating in the program and that, if nonparticipation by ginners made it necessary, CCC would purchase direct from producers at such support price. In the same announcement, it was stated that participating ginners would be paid \$66.40 per ton, basis grade cottonseed, by oil millers participating in the purchase program and that, if nonparticipation by oil millers made it necessary, CCC would purchase direct from participating ginners at such guaranteed price to ginners. The support rate to producers would reflect 90 percent of the November 15, 1951, parity price of \$74.10 a ton for average quality cottonseed.

### Stockpiling Operations

In addition to 1951-crop American Egyptian cotton acquired under the price-support program, Egyptian and Sudanese cottons were purchased for the national stockpile.

At the request of the Munitions Board, CCC offered to purchase and stockpile limited quantities of 1951-crop American Egyptian cottonseed of the Amsak and Pima 32 varieties. Purchases were limited to areas in Arizona, California, New Mexico, and Texas suitable for growing such seed. The program provided for the purchase of all registered and certified Amsak and Pima 32 seed that might be offered and about 1,500 tons of select Pima 32 seed. Any seed purchased under the program and any seed purchased by CCC from the 1950 crop and held by CCC after the 1952 crop was planted, was to be sold to the Munitions Board for stockpiling purposes. At the request of the Munitions Board, the fiscal responsibility was later transferred from the Munitions Board by virtue of a program which provided for the sale of such cottonseed to the Secretary of Agriculture for defense purposes under the provisions of the Defense Production Act of 1950, as amended.

Purchases of 907 tons of select Pima 32 were made by CCC under the 1951 program and, as of June 30, 1952, 805 tons of such seed were still on hand. As of the same date, 837 tons of select Amsak and 257 tons of select Pima 32 seed of the 1950 crop were also on hand. The total quantity of 1950- and 1951-crop American Egyptian cottonseed held by CCC amounts to 1,899 tons.

No program for the stockpiling of 1952-crop American Egyptian cottonseed has been announced.

### Purchases of Cotton Linters

As of the end of the fiscal year, 81,896,000 pounds of cotton linters had been tendered by oil millers to CCC under the 1951-crop cot-



tonseed price-support program and, of the amount tendered, 52,765,000 pounds had been delivered. No sales of linters had been made by CCC.

## Production Programs

### Cotton

The 16-million-bale production goal established for 1951 reflected the continuing need for large cotton crops to (1) meet strong domestic demand, stimulated by the defense program; (2) fill export demands of friendly foreign countries; and (3) permit some increase in the cotton carry-over. Although the production goal was not completely attained, the 1951 crop of 15,072,000 running bales was more than 50 percent larger than the 1950 crop and 27 percent above the 1945-49 average.

Early in the 1951-52 marketing season it appeared that the 1951 cotton crop would be somewhat larger than actually materialized. As a result, cotton prices declined sharply from the near-record levels reached earlier in the year. PMA officials felt, however, that the total supply of cotton indicated by the early season estimates was not excessive in relation to demand. Accordingly, measures were taken to widen market outlets and to urge producers not to dump cotton on the market during the relatively short harvesting and ginning season.

Information on the market outlook, coupled with an appeal to producers to market their crop in an orderly manner, was disseminated widely to growers. More detailed information was brought together and distributed for use of State and local leaders, banks, credit agencies, and other groups. As a result of the very wide dissemination of facts relative to the supply-demand situation, many producers took advantage of the CCC loan program. A sizeable proportion of the crop was also withheld from the central markets by producers and others acting independently of the loan program.

PMA sought to improve market conditions by urging the Export-Import Bank to reinstitute a cotton export revolving fund as a measure for facilitating foreign purchases of American cotton. Subsequent loans by the Bank were sufficient to finance the export of about 500,000 bales of cotton. PMA officials also encouraged foreign cotton customers to procure their needs early in the season. The Mutual Security Agency and the Department of Defense were requested to issue cotton and cotton goods procurement authorizations during the harvesting season. Government agencies responsible for allocating scarce raw materials were requested to make available additional steel and other materials for constructing cotton warehouses.

As a result of these various actions, the 1951-52 season was characterized by the orderliness of farm marketings. Farm prices received, as reported by the Bureau of Agricultural Economics, did not fall below parity. Marketings were small early in the season, when prices were at their lowest levels, but were large late in November 1951, when prices for Middling  $1\frac{1}{16}$ -inch cotton in the designated spot markets exceeded 43 cents per pound. Growers who held early ginned cotton off the market or placed it in the CCC loan realized substantial "equities," amounting to as much as 10 cents per pound, or \$50 per bale.

Associated with production programing operations for the 1951 and 1952 crops were numerous problems in connection with (1) the adequacy of production, harvesting, and processing facilities; (2) the

most effective use of modern cultural methods and techniques in the interest of achieving the highest level of efficiency of production; (3) the establishment of acreage and production objectives in the light of comparative advantages of alternative crops and enterprises, the availability of labor and other production resources, and the need for other commodities in the defense effort; and (4) recommendations to producers regarding the planning of their operations for the 1952 crop in a way to make the most efficient use of available resources in times of rising costs.

### ***Kenaf***

The planting seed- and fiber-purchase program for kenaf, a soft fiber plant similar to jute, was continued at the request of the Munitions Board and after certification by the Defense Production Administration that such a program is in the interest of national defense. This program, designed to encourage Western Hemisphere production, includes purchase and resale to producer-contractors and others by CCC of limited supplies of kenaf planting seed. Fiber and seed thus produced are purchased by CCC at stipulated prices.

Approximately 200,000 pounds of kenaf fiber produced in 1951 were sold by CCC on a bid basis to domestic manufacturers in such manner as to promote its widest distribution and most complete commercial testing. A part of the 1,155,000 pounds of 1951-crop seed purchased in Florida, Cuba, and Guatemala has been resold. More than 20 producer-contractors are participating in the 1952 Kenaf Program in 7 Western Hemisphere areas. Under the 1952 program, a maximum of 15 million pounds of fiber will be purchased.

Although progress of this program for developing Western Hemisphere substitutes for jute is encouraging, more experience in producing, processing, and utilizing the crop is needed before its commercial feasibility can be determined.

### ***Sansevieria***

At the request of the Munitions Board and under a delegation of authority from the Defense Materials Procurement Agency, a proposed production program was developed for sansevieria fiber. Although tests of this fiber by the Navy Department appear satisfactory, several years are required for plants to reach commercial production and no plans for practical commercial-type operation of such a program under the limited authority of the Defense Production Act appear feasible.

### ***Expansion of Basic Productive Capacity***

More than 115 applications for Necessity Certificates (Tax Amortization) covering the construction of facilities necessary for processing and warehousing of the 1951 and 1952 cotton crops were investigated and recommendations submitted. Extensive surveys were conducted by State PMA committees in Arizona, California, and the critical areas of New Mexico and Texas to determine the additional ginning, compressing, and warehousing facilities needed for processing and saving the 1951 and 1952 cotton crops. In 1951 flood and water damage aggregating several million dollars to baled cotton in California pointed up the necessity for expanded warehousing facilities in this greatly expanded producing area.

A number of applications for loans under section 302 of the Defense Production Act of 1950 for the purpose of expanding cotton production and processing facilities in critical areas were also investigated. Assistance was given in obtaining allotments of controlled materials necessary in the construction of facilities for which approval was received but for which steel and other materials were not available on the open market.

### Market Reports

A Marketing Information Section was established in Memphis in December 1951 to prepare and issue reports that formerly emanated from Washington. As in other years, reports continued to be issued from area offices in Atlanta, Memphis, Dallas, and Bakersfield.

The Marketing Information Section and four area offices issued weekly cotton market news reports and periodic reports on the quality of ginnings. Weekly market news reports designed for the use of farmers were issued on both cotton and cottonseed from Atlanta, Memphis, and Dallas during the marketing season. In addition, the Marketing Information Section issued daily and weekly reports on cotton quotations in the 10 designated spot markets, a weekly cotton linters review, monthly and annual reports on cotton price statistics and unfinished cotton cloth prices and mill margins, a quality report on cotton in the carry-over as of August 1, 1951, and an annual publication—Statistical Bulletin No. 110 entitled "Cotton Quality Statistics, United States, 1950-51."

A report showing percentages of cotton acreage planted to the different varieties in 1951 was released as an initial effort to supply consumers of American cotton with this much needed information. The report will be issued annually prior to the harvesting season.

The mailing list for the various reports totaled 55,111 names and approximately 1,720,000 copies of reports were issued to producers, merchants, mills, and other groups.

The Marketing Information Section also assumed the responsibility placed upon the Department of Agriculture by the Cotton Futures Act to supervise cotton price quotations in the 10 designated spot cotton markets. Fresno, Calif., was designated as a bona fide spot market effective March 21, 1952, but is not one of the 10 designated markets whose price differences are used in settlement of futures contracts.

### Classing and Grading

Twenty-eight permanent and two seasonal cotton-classing offices were operated during the year. Employees of the United States Department of Agriculture classified 11,401,649 samples of cotton (table 1).

Of this quantity 9,843,643 samples, or about 65 percent of total United States ginnings, were classed for the 495,391 farmer members of cotton improvement groups organized under the Smith-Doxey Act. An additional 1,392,134 samples were classified by classers licensed under the Cotton Standards Act.

The Board of Cotton Linters Examiners issued Form A memorandums on 5,224 samples and classed a total of 5,488 samples for cooperating mills and the Commodity Credit Corporation, and for the eighteenth annual grade survey. The Board handled 6,500 super-



visory samples received from licensed linters classifiers, representing approximately 95,000 bales of linters.

Licensed cottonseed chemists issued a total of 125,109 cottonseed grade certificates.

Licenses were issued to 321 cotton classers, 138 linters classers, 23 cottonseed chemists, and 466 cottonseed samplers.

TABLE 1.—*Volume of cotton classed (not including samples classed for supervision purposes), fiscal year 1952*

Cotton classing under or for—	Samples	Cotton classing under or for—	Samples
	<i>Number</i>		<i>Number</i>
Smith-Doxey Act (act of Apr. 13, 1937). <sup>1</sup>	9, 843, 643	Mutual Security Admin- istration (ECA).	139, 377
Cotton Futures Act.-----	433, 297	Federal Penitentiary, At- lanta, Ga.	19, 292
Cotton Standards Act, public classing service, and miscellaneous. <sup>2</sup>	369, 499		
Grade and Staple Sta- tistics Act.	379, 672	Total classed by em- ployees of Cotton Branch, PMA.	11, 401, 649
Commodity Credit Cor- poration.	216, 869	Reported classed by li- censed classers under Cotton Standards Act.	1, 392, 134

<sup>1</sup> Classification under this act is acceptable as a basis for Commodity Credit Corporation loans.

<sup>2</sup> Includes accommodation classing for governmental agencies and others.

### Standardization and Testing Activities (Including Research)

Standards for grade of American Egyptian cotton were promulgated in July 1951, to be effective August 1, 1952. The standards consist of nine grades prepared in physical form and one descriptive grade.

A set of proposed revised standards for upland cotton were presented for suggestions to key representatives of important groups of the cotton industry in the United States and later to representatives of the signatories to the Universal Cotton Standards Agreements. The proposed standards were also displayed for interested persons at meetings held in nine different cities in this country. The suggestions received at those meetings were carefully studied and, insofar as possible, incorporated into an improved set of revised standards. At a public meeting held in Washington in June 1952, to consider the revised standards, the producer and merchant groups in this country urged immediate promulgation of the standards with minor changes; but domestic mill groups thought the cotton in the standards was too low in color and preparation. The next step to be taken is to present the proposed standards to the signatories to the Universal Cotton Standards Agreements for their consideration.

A total of 4,264 copies of cotton standards for grade and 12,335 copies of standards for staple length was distributed. For linters, 349 copies of standards for grade and 30 expositor types for staple and character were distributed.

The Department of Agriculture announced its intention to amend the cottonseed grading system to provide for the inclusion of linters, on an optional basis, as a factor in the grading of cottonseed. A linters factor has long been recognized as a necessary improvement in the grading system.

A full program of research and technical assistance in connection with revision of the official cotton standards for grade was carried on during the year. Color measurements and determinations of foreign material content were made on a large volume of cotton samples considered for use in the proposed revised standards. This work involved extensive use of the automatic colorimeter developed previously by PMA. The proposed revised standards for grade are based on the results of color surveys of recent crops.

A substantial volume of laboratory testing was done in connection with the selection of cotton for the official standards for staple length. Spinning tests were completed on samples representing a complete set of official types for staple length of upland cotton. The results of these tests indicate that the official standards for staple length represent reasonably accurate gradations in spinning value.

The work of further perfecting artificial daylighting systems for use in the classification of cotton was continued. A large number of artificial daylighting installations have now been made in PMA classing facilities as well as in facilities of private firms. The development of suitable specifications for such installations and problems of maintenance required considerable time on the part of research personnel. A report on the technical aspects of artificial daylighting systems for cotton classing was published under the title, "Cotton Classing by Artificial Light."

Statistical studies of the relationships of fiber properties and other factors of quality in raw cotton to performance in processing and to product quality were made on the basis of data from various studies of cotton quality and fiber and spinning testing programs. Reports on studies completed were published under the following titles: "Relation of Neps in Card Web, Six Elements of Raw Cotton Quality and Yarn Size to Appearance of Long Draft Carded Yarn"; "Fiber Measurements of Second Drawing Sliver Compared With Those of Raw Cotton in Relation to Yarn Strength and Yarn Appearance"; and "Relation of Rate of Carding and Factors of Cotton Quality to Strength and Appearance of Carded Yarn, Neps in Card Web, and Percentage of Card Waste."

An electrical resistance-type meter for the rapid and accurate measurement of the moisture content of cottonseed samples underwent further improvement. The accuracy of test results obtained by means of this meter was raised appreciably by incorporating in the equipment a means of applying relatively high pressure to the samples being tested.

A cleaner-mixer for cottonseed samples was developed. This equipment is designed to extract the foreign material from cottonseed samples as a basis for foreign material content determinations and at the same time to composite the seed thoroughly as a basis for other grade factor determinations. This equipment will reduce the time required for the compositing of cottonseed samples and for foreign material determinations to from one-tenth to one-half of that required under

present methods, depending on the content of foreign material of the sample in each instance.

A rapid method for determining the residual linters content of cottonseed samples has been developed. This method is based on accelerated fuming of cottonseed samples in partial vacuum at relatively high temperatures. This method will make feasible the inclusion of the linters factor in the official system of grading cottonseed.

A special study was made during the 1951-52 ginning season of the quality of cottonseed produced in the irrigated cotton-producing areas. Cottonseed had not previously been graded in those areas.

A study was initiated to ascertain the extent of the use and degree of adequacy of the present official standards for cotton linters. Field collection of data for this study was nearing completion at the end of the fiscal year.

A mechanical cotton-fiber blender for producing a homogeneous blend of the fibers in a sample of cotton as a source for laboratory test specimens was further improved. Use of this equipment has meant a reduction in (1) the time required for preparing cotton samples for testing to about one-tenth of that required by the former manual method; (2) the experimental error in test results by providing a more homogeneous source for test specimens; and (3) the number of determinations required for a reliable average in connection with some of the tests of fiber properties. A number of cotton fiber laboratories have installed blenders or are in process of acquiring them. An application has been made for a public service patent for this equipment. A report describing the blender was published under the title "A Mechanical Cotton Fiber Blender for Use in Fiber Testing Laboratories."

A comprehensive study of the comparative performance, at varying rates of card production, of each of the principal varieties and strains of cotton now in commercial production has provided a basis for establishing spinning-test procedures that make possible more realistic evaluations of spinning-test results as applied to various types of cotton. The results of this study were published under the title "Performance of Selected Commercial Varieties of Cotton When Processed at Varying Rates of Card Production."

Studies of fiber fineness measurements by the micronaire air-permeability method have provided a basis for calibrating the micronaire instrument for measuring the fiber fineness of American Egyptian and Sea Island cottons. A report on this work was published under the title "Micronaire Fiber Fineness Scale for Use in Testing American Egyptian Cotton."

Considerable work was done on the development and improvement of standard procedures for conducting laboratory fiber and spinning tests. Rigid standardization of testing procedures has materially reduced the extent of experimental errors in conducting such tests and has reduced variations in the level of test results obtained at the various laboratories operated by PMA. An extensive interlaboratory check-testing program has been carried out as a means for checking on the results obtained at the respective laboratories and as a basis for locating and correcting differences in the level of test results.

Fiber and spinning testing services performed for others were of two categories: (1) Testing services performed for cooperating State and other Federal research agencies; (2) testing services performed



for private cotton breeders, merchants, textile manufacturers, and others on a fee basis under the provisions of the Cotton Testing Service Act of 1941. These testing services were performed at five laboratories located at Clemson, S. C.; College Station, Tex.; Mesilla Park, N. Mex.; Stoneville, Miss.; and Washington, D. C. Fiber and spinning tests made in connection with research programs of other Federal agencies and cooperating States totaled 1,084. A total of 54,477 tests was made on a fee basis as compared with 40,663 in the previous fiscal year. The regulations governing testing under the Cotton Testing Service Act of 1941 were amended to make provision for tests recently developed, to eliminate tests which are no longer used, and to adjust fees to meet more nearly the cost of performing the services. The revised regulations were published under the title, "Regulations and Fees for Cotton Testing Service."

### Marketing and Ginning Research

Work was continued on further improvement of the operating performance of mechanical sampling equipment developed previously for the automatic sampling of cotton bales during ginning. Two units of the equipment were installed in commercial ginning establishments for study under operating conditions prevailing in various cotton-producing areas.

Data with respect to costs to cotton growers for ginning and related services and for services incident to the physical handling of cotton in marketing channels which have been assembled annually beginning with the 1928-29 cotton season, were collected on a belt-wide basis for the 1951-52 cotton season. The data for the 1951-52 season were published under the title, "Charges for Ginning Cotton, Costs of Services Incident to Marketing, and Related Data, Season 1951-52."

A study to provide an appraisal of practices, procedures, and pricing methods utilized in the marketing of cotton at the major spot markets was initiated during the year. The principal purpose of this study is to develop an adequate factual basis for the selection of central cotton markets for designation under the provisions of the Cotton Futures Act, in order to provide the best possible basis for establishing current values for cotton of various qualities. Quotations of the 10 designated markets are used extensively by public as well as private agencies concerned with the marketing of cotton. It is highly important, therefore, that the markets selected for this purpose be currently representative of the cotton marketing system of the United States. Plans for marketing surveys in about 25 of the principal cotton markets of the United States were developed, approval of schedules by the Bureau of the Budget was obtained, and field work was partially completed.

Complete fiber and spinning tests were made on samples of early season, midseason, and late season cotton from 112 cotton-improvement areas throughout the Cotton Belt during the 1951-52 cotton season. Reports on the test results were published at approximately monthly intervals throughout the harvesting season. A summary for the entire cotton season was published near the close of the season under the title, "Summary of Fiber and Spinning Test Results for Some Varieties of Cotton Grown by Selected Cotton Improvement Groups, Crop of 1951."

Data on procurement practices employed by cotton mills were assembled from mills representative of the cotton textile industry. The results of the study were published under the title, "Practices of Textile Manufacturers in the Purchase of Cotton."

Data relating to farm and oil-mill prices of cottonseed, qualities of cottonseed marketed, and values of cottonseed products have been assembled both from primary and secondary sources covering a period of 12 years. The results of this study have been published under the title, "Cottonseed Prices—A Preliminary Study."

All research on ginning and associated processes was conducted jointly with the Bureau of Plant Industry, Soils, and Agricultural Engineering, that organization having primary responsibility for the mechanical engineering phases and PMA having primary responsibility for the product quality and economic phases. The following items were included in the program:

1. An analysis was completed of data from a series of laboratory ginning tests which included about 500 test lots of seed cotton representing a wide range in moisture content. Data from these tests provide an indication of the moisture content required for maximum efficiency of each phase of gin processing. Data are being developed with respect to the moisture regain properties of seed cotton as affected by temperature, humidity, and the use of wetting agents. This information is basic in connection with the development of practical procedures of adding moisture to seed cotton prior to its reaching the gin stand in order to avoid fiber breakage by the gin saws as a result of drying the seed cotton for most effective cleaning.

2. Preliminary results of a study of improved moting equipment for gin stands were released for publication.

3. Several types of equipment for the removal of sticks and stems from hand-snapped and machine-stripped seed cotton have been designed and improvised models have been constructed and tested. The most promising of these has now been perfected except for obtaining adequate capacity. Further work will be concentrated on solving this problem.

4. An improvised seed-cotton feed control device was constructed and tested in a preliminary way during the 1951-52 ginning season. This equipment operated satisfactorily under laboratory conditions from the standpoint of required capacity, elimination of overflow, and providing an even flow of cotton to drying and cleaning equipment. The preliminary testing, however, indicated the need for providing automatic control of the operation of the equipment. Work during the next fiscal year will be concentrated on the development of an automatic control system and on the evaluation of the equipment from the standpoint of its effect on the efficiency of various ginning processes.

Studies to provide an evaluation of the quality and costs of ginning services being performed by commercial ginning establishments were in progress during the year in the Piedmont area of Georgia, the Pecos and Rio Grande areas of New Mexico and west Texas, and the central Arizona area. The principal purposes of these studies are to provide cotton producers a basis for the selection of ginning services that will aid them in obtaining maximum quality and market value for their products and to provide ginners in the respective areas a basis for so equipping their gins as to assure maximum quality services consistent

with costs and other economic considerations. Detailed studies were made of representative gins employing various types and combinations of gin equipment and operating under various conditions with respect to volume of ginning and types of harvesting employed. The quality of ginning services were evaluated in each instance on the basis of laboratory analyses and tests of seed cotton delivered by producers and of ginned lint and seed turned out by the gin. The studies in Georgia and Arizona were conducted in cooperation with the agricultural experiment stations of those States. Studies of the same type were completed in south Louisiana and in the Yazoo-Mississippi Delta area of Mississippi. Reports published during the year on these studies are as follows: *The Economics of Ginning in Relation to the Mechanical Harvesting of Cotton*, and *Cotton Lint Cleaning at Gins—An Evaluation From the Standpoint of Cotton Quality and Economic Factors*.

Technical assistance was given to State agricultural experiment station workers in connection with the planning of studies of the cost of handling cottonseed at gins and of methods and practices of marketing cottonseed of improved varieties for planting. Review and guidance of work on other phases of the Regional Cotton Marketing Research Project has been accomplished through participation in meetings of the project committee.

### **Research and Marketing Act Projects**

Studies were completed on 15 cotton products representing domestic market outlets for approximately 1,600,000 bales of cotton. The specific purposes of these studies were to ascertain the qualities of cotton required for the manufacture of each product, to determine the quantities of raw cotton required for each, and to relate the qualities of cotton used in each product to the characteristics of the various improved varieties of cotton now in commercial production. This work is with a view to facilitating the procurement of suitable cotton by mills as well as to facilitating the marketing of cotton of the improved types. A report on the results of these studies has been prepared and is in process of publication. The products on which studies were completed, together with products included in studies conducted during previous years, represent market outlets for approximately 60 percent of the total domestic consumption of cotton.

Studies of the comparative suitability of different commercial varieties of cotton for the manufacture of products that are important in connection with the Defense Program have been conducted under contract with a textile research institution. The laboratory phases of these studies were nearing completion at the end of the fiscal year.

Analysis of data was completed for a 3-year series of laboratory tests to determine the effect of storage of seed cotton on the quality of lint and seed as well as the storage conditions required in order to avoid deterioration in the quality of these products. Studies of the economic aspects of seed cotton storage were made under commercial gin operating conditions in Mississippi and California where relatively large storage operations were carried on during the 1951-52 cotton season. The findings of the laboratory phases of the study were made available in a publication entitled, "Conditioning and



### Storage of Seed Cotton With Special Reference to Mechanically Harvested Cotton."

Research and development work on the drying of cottonseed concurrently with ginning was continued. This work was concentrated on the further improvement and testing of drying equipment that had been designed and constructed during the previous year. Tests of the operation of the equipment indicated that effective drying of damp cottonseed was accomplished and that dried seed could be stored successfully from the standpoint of viability and milling quality.

A total of 758 empirical ginning tests were made at the New Mexico Ginning Laboratory in order to ascertain the effect of different conditioning, cleaning, and ginning processes on the quality of lint and seed for each of the principal varieties of cotton now being grown in the irrigated cotton-producing areas of the West. The relative efficiency of different conditioning, cleaning, and ginning combinations and the effect of each on the quality of the ginned products have been evaluated on the basis of complete seed cotton, fiber, and spinning tests.

An electrical capacitance instrument designed during the previous year for measuring the oil content of cottonseed was subjected to extensive testing. Improvements found necessary to provide acceptable performance were made. Present indications are that the instrument, with these improvements, will make for rapid as well as accurate determinations of the oil content of cotton-seed samples. A private research institution under contract collaborated in these investigations.

## DAIRY PRODUCTS

Prices received by farmers for milk and butterfat increased slightly during the fiscal year and in June 1952 the average price of all milk sold at wholesale in the United States was about 4 percent, and the price of butterfat in farm-separated cream was 1 percent, above the level of a year earlier. Although prices rose slightly, production decreased. Production of milk totaled about 115 billion pounds, a decline of 1 percent from a year earlier and the lowest output per person in nearly 30 years of record. Consumption per person was down correspondingly, the reduction being accounted for largely by a decline in the use of butter.

### Price Support

The dairy price-support program which became effective on April 1, 1951, was continued through March 1952. Levels of support were \$3.60 per hundred pounds of manufacturing milk of 3.95 percent butterfat (yearly average test) and 67.6 cents per pound of butterfat. These prices were equal to 87 percent of the parity equivalent price for manufacturing milk and 90 percent of parity for butterfat as of the beginning of the marketing year.

To encourage adequate milk production during the 1952-53 marketing year and to help overcome the production problems confronting dairy farmers, it was announced in November 1951 that prices of milk and butterfat during the marketing year beginning April 1, 1952, would be supported at 90 percent of parity as of the beginning of the marketing year. It was further announced in March 1952 that the dollars-and-cents levels of support for the marketing year April 1,

1952-March 31, 1953, would be \$3.85 per hundred pounds of manufacturing milk and 69.2 cents per pound of butterfat, and that the program would be effectuated through carlot purchases of dairy products at the following prices:

Product:	Price (cents per pound)
Butter, U. S. Grade A or higher-----	67.75
Butter, U. S. Grade B-----	65.75
Cheddar cheese, U. S. Grade A or higher-----	38.25
Nonfat dry milk solids, spray process, U. S. Extra Grade-----	17.00
Nonfat dry milk solids, roller process, U. S. Extra Grade-----	15.00

The demand for dairy products continued firm during the year and purchases for price-support purposes were limited to 1½ million pounds of Cheddar cheese and 57 million pounds of nonfat dry milk solids. No butter was purchased.

In view of the small quantities of dairy products purchased, the disposal problems were less serious than in the two preceding years. Substantial quantities of nonfat dry milk solids were sold in domestic trade outlets. Additional quantities of cheese and nonfat dry milk solids were sold for export or for military and school-lunch uses. At the year's end, CCC had only 27½ million pounds of nonfat dry milk solids and less than a million pounds of cheese available for disposition.

### Marketing Agreements and Orders

Four new milk marketing areas were brought under Federal regulation, increasing the total number of such areas to 45. The four new orders issued covered the Neosho Valley (Kansas-Missouri); Cedar Rapids-Iowa City, Iowa; north Texas (Dallas and Fort Worth); and San Antonio, Tex., marketing areas. Approximately 21,500,000,000 pounds of milk, valued at an estimated \$890,000,000, were delivered by the 171,770 producers who marketed under Federal orders during the year. This was an increase of more than 10 percent over the previous fiscal year.

Hearings on proposed new orders were held in Sioux Falls-Mitchell, S. Dak.; Stark County (Canton, Massillon, and Alliance), Ohio; Fort Smith, Ark.; Muskegon-Grand Haven, Mich.; and central west Texas. The hearings were concluded but orders had not yet been issued at the end of the fiscal year. A hearing on a proposed order for the New York-New Jersey area was in progress at the end of the year. Inquiries concerning new order programs also were received from 21 additional marketing areas.

A total of 51 public hearings was held to receive testimony relative to new orders or amendments to existing orders and 59 amending orders were issued.

Six orders were issued to suspend certain provisions of existing orders.

One public meeting was held during the year pursuant to requirements set forth in the Administrative Procedure Act.

Ten petitions were filed by handlers for review of order provisions or market administrators' regulations under paragraph 8c (15) (A) of the Marketing Agreement Act and 12 petitions were dismissed or otherwise disposed of during the year. On June 30, 1952, action was pending on 25 petitions.

Decisions by the courts were entered in the following cases: *U. S. v. Ernest Luscombe* (Suburban Chicago Order), *U. S. v. Superior Dairies, Inc.* (Minneapolis-St. Paul Order), and *U. S. v. Ferm Dairy and Alex Ferm* (Rockford-Freeport Order). These cases, all criminal actions, involved maintenance of false records and the filing of false reports.

In the first-listed case the defendant was an employee of a proprietary handler. Because of that fact and because he did not stand to gain financially by the fraudulent action, the fine imposed by the court was nominal. In the case of Superior Dairies, the defendant pleaded guilty and was fined \$50 for each of the 29 counts listed in the criminal information. In the third case, although the action was dropped against the individual named, the corporation pleaded guilty and was fined \$1,500.

*Charles F. Brannan v. Delbert O. Stark et al.* This case involved the validity of a provision of the Boston milk order authorizing the withholding of certain sums from the total value of producer milk computed at order prices and the payment thereof to cooperative associations meeting standards prescribed under the order. In a prior decision involving the same parties (*Stark v. Wickard* in 1944) the Supreme Court recognized the right of individual producers to bring such an action, but did not pass upon the merits. The Supreme Court has now held that the contested provision in the Boston Order was invalid because it was not within the authority of the Agricultural Marketing Agreement Act of 1937.

*Charles Kass, individual and trading as Babylon Milk and Cream Company v. Brannan.* On appeal to the United States Court of Appeals for the Second Circuit, a decision was handed down declaring invalid the provision of the New York Order (Order No. 27), providing for a payment into the pool by the defendant who received no milk from producers, of an amount equal to the difference between the utilization value of such milk and its value computed at a lower price specified in the order. That provision of the order was held to be contrary to the uniform pricing requirement of section 8c (5) (A) of the Marketing Agreement Act and was not within the authority of section 8c (7) (D).

*Kewaskum Dairy and Wm. H. Heinemann Creameries, Inc., v. H. H. Erdmann.* This was an action in which the plaintiffs sought to enjoin the Secretary from applying the milk order to each of them and from imposing obligations to pay their pro rata share for administrative assessments and the obligation to withhold deductions from payments to producers for marketing services and to pay the same over to the market administrator. The basis for the action was the alleged invalidity and unconstitutionality of the order and the absence of Federal jurisdiction to regulate the plaintiffs who alleged they were engaged solely in intrastate commerce. The plaintiffs also pleaded lack of sufficient evidence to sustain the order.

In April 1952, the United States District Court for the Eastern District of Wisconsin denied the motion for preliminary injunction primarily on the basis that the statute provided a prior and exclusive remedy to test the validity of an order by means of a petition under section 15 (A) of the act which was then reviewable by the courts under section 15 (B).



*Harry Markheim v. Andy W. Colebank et al.* This action was brought by a producer against the market administrator and 11 defendants who were handlers under the Chicago order to enjoin the payment of certain differentials on milk received at plants located in nearby zones; provision for which had been made in the amendment to the Chicago order effective July 1, 1951. Of the total 10 cents differential payable to producers delivering such milk, 6 cents was pooled and 4 cents represented an additional payment by each receiving handler. On October 26, 1951, the United States District Court for the Northern District of Illinois denied the application for a preliminary injunction on the grounds that the Secretary was an indispensable party. However, the court's opinion considered the legality of the provision and reached the conclusion that it was valid under the Marketing Agreement Act.

### **Agricultural Supply Program**

PMA procured dairy products for export to foreign countries under programs administered by the Mutual Security Agency. A total of 226,200 cases of evaporated milk and 567,600 pounds of dry whole milk were purchased during the year for shipment to Greece and Formosa, respectively. Requirements for other dairy products from the United States under these programs were met from CCC price-support stocks.

Information on current and prospective supplies and price conditions were assembled and analyzed for use in connection with foreign assistance programs.

### **School Lunch and Other Distribution**

A total of 10,200,000 pounds of pasteurized processed American cheese was purchased for distribution to participating schools under the National School Lunch Program. In addition, 19,296,000 pounds of spray process nonfat dry milk solids were purchased, and 1,416,475 pounds were transferred from CCC price-support stocks for direct distribution to school lunch programs and other eligible agencies under section 32.

### **Market News**

More than 50,000 individuals and business firms on mailing lists received approximately 11,650,000 dairy and poultry market news reports during the year. Radio and television continued to be important media for disseminating dairy and poultry market news information, with 860 radio stations and 8 television stations carrying such information regularly.

An additional reporter was added to the staff at Baltimore, to handle dairy and poultry market news reports. A survey to determine what changes could be made to improve the value of the dairy and poultry market news in Baltimore led to a change in reporting egg prices from a wholesale to an f. o. b. Baltimore basis. The change met with general approval because it gives producers a much better basis for making decisions with respect to prices at which they sell eggs.

A Federal-State market news service for broilers was inaugurated on a trial basis at Austin, Tex., under authority of the Research and Marketing Act. Under this project, prices paid at the farm for broil-

ers are being reported for the more important broiler-producing areas of the State.

The Federal-State service at Pittsburgh, Pa., established during the preceding fiscal year, was extended to include the assembling and publishing of receipts data, and the reporting of prices of ready-to-cook poultry and frozen eggs.

The poultry market news service in Iowa was expanded, with the use of State funds, to include daily price quotations for eggs and live poultry. This information previously was assembled by mail twice a week.

Price reporting on eggs and live poultry at Forth Worth, Tex., heretofore handled by the fruit and vegetable reporter, was discontinued at the beginning of the year.

### Standardization

Improvement of quality standards for dairy products has been an active project during the year in response to the continued strong demand for high-quality dairy products and for Federal inspection and grading of such products.

United States Standards for Grades of Nonfat Dry Milk Solids were promulgated and became effective July 8, 1951. These standards replace pertinent parts of Tentative United States Standards for Grades of Dried Skim Milk and Dried Whole Milk relating to dried skim milk.

Information was assembled preparatory to issuing United States Standards for Grades of Dry Whole Milk, which will supersede the present tentative standards in effect since 1943.

Standards for grades of butter, issued in 1943, were circulated to State colleges, State departments of agriculture and health, and to industry groups to obtain suggestions as to possible revision. The standards were then revised and issued as a proposed rule making, February 8, 1952. The 30-day period originally allowed for submission of views was extended to 90 days, at the request of the dairy industry. This extension delayed revision because at the end of the 90 days the 1952 butter storage season was under way. To prevent the grading of storage butter under standards differing from those under which it was purchased, the final adoption of the standards was postponed.

The Tentative United States Standards for Grades of Swiss Cheese were circulated for suggestions and proposed new standards were prepared and published in the Federal Register, December 13, 1951. Representatives of the Department then met with Swiss cheese producers and dealers and discussed the proposed standards. As a result of this discussion, the proposed standards were again revised and circulated. At the end of the fiscal year they were being prepared for publication in final form.

A proposed revision of the Instructions Governing Plants Operating as Official Plants Processing and Packaging Dairy Products was published in the Federal Register on February 8, 1952. It provided more adequate standards for classifying and grading milk and cream used in the manufacture of dairy products, and set forth more specifically the terms and conditions for identifying the products with the program. As a result of comments received, it was decided to

study the instructions and to discuss them further with State agencies and industry people to assure full understanding of this voluntary program.

In cooperation with the Bureau of Dairy Industry, a research project was developed to determine the degree of suitability of various small packages for the preservation of nonfat dry milk solids. The milk solids are to be packaged in the various available materials and stored at 85° F. and 85 percent relative humidity. In addition to moisture absorption, the principal consideration, the study will deal with bacterial and coliform estimates, solubility, flavor, and color—all important quality factors. Better packaging would increase the domestic outlets for nonfat dry milk solids.

The use of uniform standards in judging dairy products was stressed to student judges at the Collegiate Students' International Contest in Judging Dairy Products. This contest is held annually under the supervision of the Dairy Branch and is sponsored by the American Dairy Science Association and the Dairy Industry Supply Association, Inc. Teams comprised of three members and an alternate from 24 agricultural colleges participated in this contest. Market milk, ice cream, butter, and cheese were judged.

Articles published in technical journals reported on three research projects. One detailed a simple and rapid method of determining the scorched particle content of nonfat dry milk solids. Another reported that commercial chocolate drink can be stored at a temperature of 0° F. without flavor deterioration or protein flocculation. The third reported that the addition of sugar (with or without ascorbic acid) improves the keeping quality of frozen homogenized milk.

Assistance was given in the preparation of the Federal specifications for cultured buttermilk and cottage cheese and processed pasteurized cheese; and in the preparation of military specifications for Swiss and American processed (pasteurized) cheese; cream, pasteurized for reconstituted or recombined milk; concentrated frozen milk; dry, modified, sweetened milk; and pasteurized, homogenized frozen milk. Recommendations were also made regarding the military specifications for stabilized and sterilized whole milk.

### Inspection and Grading

More than 750,000,000 pounds of dairy products were graded during the year, including 364,854,056 pounds of butter, 90,711,819 pounds of cheese, 240,980,206 pounds of dry milk, 1,331,312 cases of evaporated milk, and 9,533,065 pounds of other dairy products. This was a decline from the previous year, because of a reduction in Government purchases of butter, Cheddar cheese, and nonfat dry milk solids under the dairy price-support program.

As in other years, inspection and grading of dairy products for the commercial trade were available on a voluntary-fee basis to all applicants, and included the inspection and grading of dairy products for class, quality, and condition, in accordance with United States Standards for grades, Federal specifications, and other applicable contract specifications. In carrying out the inspection and grading service, the full cooperation of State departments of agriculture and agricultural colleges was enlisted.



The dairy and poultry grading services, which were combined during the previous fiscal year, were separated at the beginning of the current year, and a master memorandum of agreement with cooperating State agencies was developed to provide for Federal-State cooperation in carrying out the dairy inspection and grading activities. To date, 41 State agencies are signatories to this master cooperative agreement. Previously, an individual agreement was in effect in each of the 41 States. The adoption of the master cooperative agreement has simplified the handling of receipts and disbursements in operating the service in the States and has greatly facilitated the administration of the program.

### **Activities Under the Agricultural Marketing Act**

Three reports in the series of historical studies of milk marketing under Federal regulation were completed during the year. These studies related to the Duluth-Superior, the Minneapolis-St. Paul, and the Kansas City, Mo., milk markets. Similar reports also are near completion for the Clinton, Iowa, and Louisville, Ky., markets. These studies provide an appraisal of the administration and effects of Federal milk marketing orders in various markets and under varied economic conditions.

A bulletin, *Federal Milk Marketing Orders and Dairy Programs in World War II* (Agriculture Monograph No. 12), was published during the year.

Work was undertaken to develop an improved method of pricing surplus milk in the Kansas-Missouri-Oklahoma area.

Further work was done during the year by the National Research Council under contract with the United States Department of Agriculture to determine the effect of certain sanitary regulations upon the quality of milk. Additional markets were surveyed and intensive physical, chemical, and bacteriological examinations of milk and appraisals of sanitary control work were made during the year. A report on this work is being prepared for publication.

Progress was made on a study of handlers' margins in the Duluth-Superior milk market, for the purpose of developing techniques for measuring margins on fluid milk sold in retail and wholesale channels in Federal order markets.

The study of butter-pricing problems was continued during the year. Nearly all the major butter receivers in the country were interviewed and information was gathered to explain and evaluate the manner in which butter prices are established in the two major central butter markets—Chicago and New York. Progress also was made on an analysis of factors which influence day-to-day changes in spot butter prices. Work was done in an advisory capacity with the North Central Committee on Dairy Marketing Research in connection with a report based on a survey of creameries in the North Central Region concerning their butter-pricing and marketing practices. Further analysis of information obtained in the course of the creamery survey also was undertaken.

Work was done on a study of factors affecting the variability of butterfat tests of milk. The results will be used to develop more accurate methods of sampling milk for determining butterfat content.

Additional work was done on the problem of determining relation-

ships between fat and solids-not-fat in milk. Data pertaining to 2,755 samples of milk have been gathered, and statistical analysis of the data now is under way.

## FATS AND OILS

Combined production of five important oil-bearing commodities—soybeans, cottonseed, flaxseed, peanuts, and tung nuts—was 16,401,000 tons in 1951, as compared with 15,257,000 tons in 1950. Price support was mandatory for peanuts and tung nuts under provisions of the Agricultural Act of 1949, but prices of soybeans, cottonseed, flaxseed, and olive oil also were supported under permissive sections of the act. A program initiated in 1951 to expand production of castor beans, needed for the manufacture of defense materials, was continued.

### Price Support

#### *Peanuts*

Support prices, based on 88 percent of the parity price as of August 1, 1951, were established for 1951-crop peanuts, as follows: Virginia type, containing 65 percent sound mature kernels, \$226 per ton; Runner type, containing 65 percent sound mature kernels, \$206 per ton; and Southeast and Southwest Spanish types containing 70 percent sound mature kernels, \$229 and \$225 per ton, respectively.

Premiums and discounts were established for other grades. Valencia peanuts, with less than 25 percent discoloration and damage caused by cracked or broken shells, were supported at \$226 per ton but with no premiums for extra-large kernels. Other Valencia peanuts were supported at the rates for Spanish types in the areas where grown.

Prices to farmers for farmers' stock peanuts were supported by: (1) Purchases of farmers' stock peanuts through shellers under contract with CCC, through peanut cooperative associations, and through receiving agencies under contract with the cooperative association; and (2) loans on farm-stored peanuts.

Purchases of farmers' stock peanuts (including farmers' stock equivalent of a small quantity of shelled peanuts) of the 1951 crop through June 30, 1952, totaled about 266,000 tons, of which approximately 53,000 tons were sold for edible purposes and 149,000 tons for crushing. Approximately 55,000 tons of Virginia-type peanuts in CCC inventory were available to shellers for edible use and about 8,500 tons of peanuts in the southeastern area were to be offered for crushing.

A small number of loans, made on farm-stored peanuts, were repaid by producers before maturity of the loans. Loans to shellers through lending agencies, and secured by shellers' inventories, were made for the purpose of financing sheller purchases of farmers' stock peanuts.

Under the Agricultural Adjustment Act of 1938, as amended, producers who picked and threshed peanuts in excess of their 1951 acreage allotments were permitted to deliver excess peanuts to agencies designated by CCC at oil and meal value, provided such producers did not pick and thresh in excess of their 1947 "picked and threshed" acreages or 1948 if no peanuts were harvested from their farms in 1947. Purchases of excess oil peanuts were made through shellers and receiving agencies. Producers were paid the oil and meal value,

as determined and announced periodically by CCC during the marketing season. Virginia, Runner, and Spanish type excess-oil peanuts were sold by CCC for crushing at their oil and meal value. As Valencia type peanuts were declared to be in short supply, CCC was authorized to sell, for cleaning and shelling, excess Valencia peanuts purchased from producers at their oil value. Sales of such peanuts for edible use were made at prices not less than 105 percent of support prices, plus reasonable carrying charges. The profits from the sale of such peanuts will be prorated among the producers who delivered Valencia type peanuts to CCC.

The program for 1952-crop peanuts, approved March 19, 1952, provides for supporting prices to cooperating producers by means of non-recourse farm-storage loans, purchase agreements, warehouse-storage loans, and loans to peanut cooperatives. On March 28, 1952, Congress repealed the "excess oil" provisions of the Agricultural Adjustment Act of 1938, as amended. With marketing quotas and acreage allotments in effect, producers of 1952-crop peanuts who harvest and market peanuts from acreages in excess of their farm allotments will not be eligible for price support, and their excess peanuts will be subject to the marketing quota penalty.

The minimum average support price for the 1952 crop was announced at \$239.40 per ton for peanuts of all types, on the basis of 90 percent of the February 15, 1952, parity price. Support prices are subject to upward revision should a higher level of parity as of August 1, 1952 (the beginning of the marketing year), require a higher support level. Base grade support prices were announced as follows: Virginia type, containing 65 percent sound, mature kernels, \$231 per ton; Runner type, containing 65 percent sound, mature kernels, \$215 per ton; Southeast Spanish type, containing 70 percent sound, mature kernels, \$236 per ton; and Southwest Spanish type, containing 70 percent sound mature kernels, \$232 per ton. The program for 1952 does not provide for sheller contracts or direct purchases of peanuts.

### ***Tung Nuts***

The 1951 program provided for supporting the price of tung nuts and tung oil by purchase agreements on tung nuts and oil, and non-recourse loans on producers' oil stored in approved warehouses.

Support prices were \$67.20 per ton for nuts, based on 60 percent of parity as of November 1, 1951, and 26.5 cents per pound for oil. With Chinese tung oil under embargo, the domestic price of oil ranged from 38 to 41 cents per pound, during the marketing season. Because the market price was above the support level, producers did not take out loans with CCC but sold their 1951 crop of oil commercially.

### ***Linseed Oil***

The 300 million pounds of linseed oil transferred to the Secretary of Agriculture, June 21, 1951, under the Defense Production Act, is in storage, and CCC continues its inventory management of this supply. At the time of transfer, CCC's remaining inventory was approximately 220 million pounds.

Total sales of linseed oil during fiscal year 1952 amounted to 22,431,396 pounds, of which 20,722,810 pounds were sold for export through the Mutual Security Agency. CCC's inventory at the end of



the year, exclusive of the oil held for the Secretary, was 198,690,324 pounds.

### ***Cottonseed Oil***

Price support to producers of 1951-crop cottonseed was accomplished through direct and indirect loans, purchase agreements and purchases, and through purchase of end products from participating mills. Support to producers was almost entirely effected through an open offer made by CCC to purchase crude cottonseed oil, meal or cake, and linters, under a "package" arrangement, from mills accepting the terms and conditions of the offer. Mills were required to purchase cottonseed from eligible ginneries, or producers, at not less than the specified prices.

Approximately 136.2 million pounds of crude cottonseed oil was tendered to CCC. CCC executed contracts with refineries for the assignment of its crude-oil purchase contracts with crushing mills. These refiners' contracts provided for the sale to CCC of the refined oil produced from the crude oil acquired through assignment, at accepted bid prices, or retention of the refined oil for the refiner's account. All the crude oil tendered to CCC under the 1951 program was assigned to refiners.

CCC purchased approximately 74.8 million pounds of refined cottonseed oil from refiners through June 1952. Of this quantity, CCC had disposed of 600,230 pounds through sales for export. The remainder has been placed in storage.

The 1952 cottonseed price-support program will be similar to the 1951 program. The open offer to mills again provides for a "package" arrangement for purchases of end products by CCC from the mills. It is expected that the crude oil contracts with mills will again be assigned to refiners, as under the 1951 program.

### ***Olive Oil***

A loan and purchase agreement program was made available to olive producers in California and Oregon on the 1951 crop of olive oil. The support rates for oil meeting United States Grade A standards were \$2.50 per gallon for oil containing not more than 1 percent free fatty acid, and \$2.25 per gallon for oil above 1 percent but not more than 1.4 percent free fatty acid. The program was offered because olive producers were faced with abnormally low prices, which resulted from a record crop of olives in the Mediterranean Basin and a near record crop in California. Loans were made on olive oil stored in approved warehouses. Approximately 376,000 gallons of oil were placed under loan or covered by purchase agreements. Loans will mature on December 31, 1952, and notice of intent to sell to CCC within 30 days under purchase agreements must be given to county committees by December 31, 1952.

### **Peanut Acreage Allotment and Marketing Quota Program**

The Department announced on November 23, 1951, a national peanut-acreage allotment of 1,673,102 acres and a marketing quota of 650,000 tons for 1952-crop peanuts, pursuant to section 392 of the Agricultural Adjustment Act. On January 28, 1952, the allotments to States producing Virginia and Valencia types of peanuts were in-

creased by 32,639 acres, under the provisions of Public Law 17, Eighty-second Congress, to meet a condition of short supply in those types of peanuts. Acreage allotments were made to approximately 170,000 farms.

A total of 34 violations of the 1951 marketing-quota program had been referred to the Fats and Oils Branch for recommended action by State PMA committees at the end of the fiscal year. Of these cases, 3 were closed by settlement, 4 were referred to the Office of the Solicitor for legal action, and 27 cases are still under investigation.

There was no change in legislation affecting peanut-marketing quotas during the 1952 fiscal year. However, the "excess-oil" peanut legislation, which exempted farmers from marketing-quota penalties when they delivered excess peanuts to a designated agency, was repealed by the Eighty-second Congress.

### Exports

The domestic procurement of fats and oils for export was based, during the year, on requirements of the Mutual Security Agency. These requirements were filled from stocks acquired under the price-support program, or by direct purchases.

Procurement for export through the Mutual Security Agency was as follows:

Commodity:	Quantity—Pounds	Destination
Linseed oil.....	273, 644	Italy.
Linseed oil.....	7, 151, 166	Germany.
Linseed oil.....	13, 298, 000	Netherlands.
Peanuts.....	4, 516, 739	Norway.
Soybean oil.....	665, 809	China (Formosa).
Tallow.....	1, 099, 915	Do.
Yellow grease.....	3, 897, 504	Do.

### Castor-Bean Production and Procurement Program

A domestic production and procurement program for castor beans, initiated in 1951 at the request of the Munitions Board, was continued for the 1952 crop on an expanded basis. This supply program is carried out with funds of the Commodity Credit Corporation, but losses, if any, will be reimbursed from funds authorized in the Defense Production Act of 1950, as amended. Castor oil is a strategic commodity which is being stockpiled. The program is designed to provide a source of supply for castor oil to supplement importations of castor beans and oil, mostly from Brazil and India.

The Department of Agriculture offers to purchase all castor beans grown under contract at not less than 10 cents per pound, and is making harvesting machinery and hulling equipment available to farmers to encourage further participation in the program. Castor beans are being grown in areas suitable for commercial production, for which adapted seed is available on both irrigated and dry-land acreages. The program is being carried out by individual growers through State and county PMA offices in Oklahoma and Texas, and by private companies (under contract with Commodity Credit Corporation) in Arizona, Arkansas, and California and in certain specified areas of Oklahoma and Texas.

Under the 1951 program, approximately 84,000 acres were contracted to castor beans, of which about 63,000 acres were harvested.

Abandonment was high and yields were low because of adverse weather conditions which prevailed throughout most of the areas. The total domestic production of castor beans from the 63,000 harvested acres was about 21 million pounds. The Commodity Credit Corporation acquired approximately 2,173,000 pounds of castor beans from the 1951 crop from which, in addition to seed stock retained, approximately 634,000 pounds of oil were processed for the account of CCC on a competitive bid basis. The oil was sold to the General Services Administration for inclusion in the national stockpile as directed by the Secretary of Agriculture. It is estimated that about 121,000 acres have been planted to castor beans under the 1952 program. Additional harvesting machinery and hulling and storage equipment have been provided to take care of the expanded program. Most of the 1952 acreage planted, including both irrigated and dry land, is in Texas.

### **Foreign Assistance Act**

#### ***MSA-Surplus Determination***

Linseed oil and bleachable prime summer yellow cottonseed oil were classified as surplus commodities under section 112 (e) of the Foreign Assistance Act of 1948. Monthly reports were prepared showing the estimated surplus, domestic market prices, CCC holdings, and unit cost of the surplus commodities.

### **Activities Under the Agricultural Marketing Act**

A survey under the Agricultural Marketing Act of 1946 (RMA, Title II) disclosed that facilities for mill storage of cottonseed, soybeans, flaxseed, and peanuts and tank storage for animal and vegetable fats and oils in liquid form were adequate in all areas for the 1951 crop and the prospective 1952 crop, except that in certain areas in the far West where cotton production has expanded, additional mill storage for cottonseed was needed. This is the first such study ever made for these commodities. The basic data developed in the survey, if supplemented by new data from time to time, will enable the fats and oils industry, transportation agencies, and the Government to keep informed at all times as to the storage situation in each area and for each commodity.

Research showing an advantage in storing soybeans at harvesttime, reported on a year ago, is considered one of the important factors that added about \$50,000,000 to growers' returns from their 1951 crop of soybeans. Of the \$50,000,000, \$33,000,000 was the amount above expectations in August and September 1951, when it was assumed they would follow their usual marketing practices. Contrary to past practice, the growers placed a much greater part of their harvested beans in storage and later sold them at relatively favorable prices. The gain due to delayed marketing far more than offset the cost of storage. The study showed that, in 4 out of 5 years, growers who stored beans at harvesttime received more than harvesttime prices for them. The added income was three to four times as great as the actual cost of storage, for the 5 years.

Two of the three agricultural experiment stations working with PMA under an RMA contract have reported their findings under a



limited peanut-storage study. These findings, together with results of study by PMA, have answered some questions regarding the availability of peanut-storage space, handling practices, and length of time peanuts are normally stored by the different handlers. However, all this work has pointed to the specific need for a commercial-sized controlled experiment which will answer the questions of CCC and of farmers storing peanuts under the price-support program, as to the desirable moisture content of peanuts when placed in storage, changes in quality of peanuts during storage (including insect damage), other conditions, and the cost of storage in different types of structures, for varying periods.

In a study of the effects of new processing methods on the cottonseed industry, market outlets, and returns to growers, the contractor furnishing the engineering data has completed his work, and the economic analysis is nearing completion. It was found that many mills, because of inefficient engineering, fail to achieve an even and efficient flow of material and use of power at the most favorable rates per ton of seed processed. One of the common faults was inadequacy of seed unloading equipment. It was also found that in the smaller mills labor requirement per ton of seed crushed may generally be expected to decline with an increase in the scale of operations, but that a point is reached, about 170 tons per day, above which further expansion may have the reverse effect. For example, an increase from 170 to 200 tons a day may be expected to change the labor requirement from 2.97 hours per ton to 3.12 hours.

The study of physical and chemical characteristics of farmers' soybeans as related to the value of outturns of oil and meal at the processing plant has been completed. Samples studied indicated that if soybeans from the 1950 crop had been priced on the basis of outturn value, rather than the actual pricing basis, there would have been a variation of 60 cents per bushel due to variation of oil and meal content. Returns from the 1950 crop averaged \$3.24 per bushel. However, a system of premiums and discounts reflecting true value could be based on moisture and foreign material content. It was also found that split and damaged beans contain more oil than whole, sound beans, but of a poorer quality and that the oil in damaged soybeans decreased in quality as the soybean storage season progressed.

Under a cooperative research project with the Georgia Agricultural Experiment Station two new peanut products were manufactured on a small commercial basis and placed on the market experimentally. They are "Peanut Snack" and "Peanut Spread." Both were processed in a manner similar to peanut butter and at approximately the same cost. Different types of flavors such as maple, orange, chocolate, and chili, were added. Dextrose and hardened oils were added to some lots of Peanut Snack to increase the stability for slicing and otherwise improve the texture. A consumer reaction study was made on Peanut Snack which included 1,246 persons who used this new peanut product. Of the 1,114 responding, 78 percent liked the product and 72 percent stated that they would buy it if their retail grocer made it available to them. Consumers of Peanut Snack and Peanut Spread indicated that they liked the variety of choice which these new products add to the peanut-butter shelf. A report entitled "Peanut Snack and Peanut Spread: Potential New Products" has been prepared for publication.

A marketing research contract with Iowa State College provides for a survey of not less than 15 wholesale lard-processing plants in Iowa and adjacent States, with the purpose of analyzing the interrelations of plant equipment, size of plant, plant location, processing methods and practices, quality of product, cost of processing, value of product, volume of production, merchandising methods, and types of consumers using the products. Reports from the cooperating processing plants are being received and analyzed. The analysis will be made in such manner as to indicate the economic significance of the variations in these factors to utilization and marketing costs of lard and hence to lard processors and consumers. Indirectly it should help hog producers.

Potential markets for larger amounts of inedible fats and oils of agricultural origin were indicated by a marketing research study of fats and oils industries conducted under contract by a private consulting chemist. From such fats and oils the chemical-processing industries derive chemicals which are used in making a wide variety of products, including lubricants, insecticides, and various types of surface coatings, such as those on raincoats, oilcloth, and painted, lacquered, or plastic-coated materials. In general, derivatives of fats and oils have certain characteristics in common, but each one also has certain unique qualities which make it more acceptable to certain processors or manufacturers. A report, *Marketing of Nondrying Industrial Fats and Oils as Affected by Processing Methods*, describes briefly some of the principal processes on which the potential industrial market for inedible fats and oils appears to depend. Two additional reports based on this research are now being written, dealing with the market potential of inedible fats and oils in the field of synthetic detergents and emulsifiers.

Wide variations in processing costs of cottonseed oil mills were found in another study to be closely associated with wide variations in the volume of cottonseed crushed. Increased volume carried with it decreases in cost 87 percent of the time, whereas decreases in volume crushed from one season to the next showed increased processing cost 84 percent of the time. The cost of processing cottonseed increased slightly during the 1949-50 season but increased substantially during the 1950-51 season, when it averaged \$20.36 per ton. This compared with \$15.31 the previous season. Increases in fixed costs accounted for most of the increases in processing costs during the 1949-50 season. A report on this study was published under the title, "Marketing and Processing Costs of Cottonseed-Oil Mills in the Postwar Period, 1946-47 to 1950-51."

In another research study the crushing capacity of the cottonseed industry was found to be 9,500,000 tons per year as of the 1949-50 season, of which only about 60 percent was utilized. However, this utilization varied by States from 39 percent of capacity in Alabama to 81 percent in Arizona. Excess capacity was greatest in the Southeast. Larger mills tended to utilize a slightly larger percentage of their capacity. Also, they tended to use fewer hours of labor and have lower labor costs per ton of seed crushed. The number of mills processing cottonseed decreased from 563 in 1925 to 346 in 1949. A report was issued on this study under the title, "Cottonseed Oil Mill Characteristics and Marketing Practices."

A report entitled "Tung Processing and Marketing Practices and Costs," completed during the year, for the first time describes in considerable detail the new tung-oil mill industry. Investment in processing plant has been heavy and mill capacity relatively large compared with the volume of tung fruit available for processing. The result is short processing seasons, high overhead charges, and to some extent excessive labor costs. In many instances the mills appear to have improved returns by doing custom milling. Average costs of milling the 1947 and 1948 crops were between \$17 and \$18 per ton and varied between mills as much as \$18. In 1948-49 custom milling average charges were about \$12.50. Customarily the miller retained byproducts the value of which averaged about \$7 per ton.

In a study of soybean-oil mill practices as related to the cost of processing soybeans, census data and other data available to PMA have been classified and tabulated, and a study of such data is currently in process. A report is expected before the end of the 1953 fiscal year.

### FRUITS AND VEGETABLES

Increased activity in the enforcement of the Perishable Agricultural Commodities Act; operation of the price-support program for honey; administration of marketing agreement and order programs; and expanded standardization and inspection operations highlighted activities in the fruit and vegetable field.

#### Regulatory Activities

On June 30, 1952, there were 24,808 licenses in effect under the Perishable Agricultural Commodities Act, a slight increase from the 24,567 in force a year earlier. License fees and arrearage amounted to slightly more than \$400,000, about the same as for the previous year. Licenses were denied to 13 applicants because of their failure to comply with the requirements of the act. Through failure to pay reparation awarded within the time prescribed, licenses of 17 persons, or firms, were automatically suspended, as compared with 29 suspensions the preceding year.

An all-time high of 2,779 complaints were filed. Almost half of the cases were closed as a result of amicable settlements. Financial adjustments made between parties in connection with these cases totaled \$1,258,558, an all-time high that exceeded the amount of comparable types of settlements effected in the previous year by more than \$326,000.

Arbitration cases totaled 108. The industry appears to favor this method of disposing of disputes and industry members more frequently sign contracts agreeing to abide by decisions rendered.

Five cases of alteration of Federal inspection certificates were filed during the year. Cases of misbranding increased from 102 in 1951 to 108 in 1952.

During the year, 230 orders were issued disposing of 204 cases with reparation awards totaling nearly \$200,000. The high standard of this work is indicated by the fact that there were few cases where a decision on an order was reversed on appeal to the United States district court. Only 15 cases were appealed to the courts during the year.



A pocket-size pamphlet, containing trade terms and definitions was prepared and distributed widely for the benefit of the fresh and frozen fruit and vegetable industry.

Under the Produce Agency Act, 46 cases were filed as compared with 36 during the preceding year. The majority of cases arising under this law were disposed of by amicable settlement.

There were no prosecutions under the Export Apple and Pear Act.

Under the Standard Container Acts of 1916 and 1928, a total of 1,925 samples of 293 types and sizes of containers was examined, 69 of which required correction. Of the samples requiring correction, 58 had been corrected by the end of the year. Tests were made of sample containers from 100 factories. On June 30, 1952, there were 190 factories making or equipped to make containers subject to the provisions of the act. A pamphlet containing the text of the Standard Container Acts and the regulations promulgated thereunder, was completed and distribution of it is being made.

### Market News

Federally operated market news service for fruits and vegetables was conducted through 24 permanent offices, exclusive of Washington, D. C., and 28 seasonal-shipping-point offices—one more shipping-point office than last year. More than 10,000,000 copies of reports were issued during the year. In addition to this "primary" distribution of market news, dissemination was given by newspapers, radio, telephone, telegraph, and direct teletype.

In July 1951, the market news office servicing north Texas was moved from Fort Worth to Dallas, thus making it possible to extend service into northern and eastern Texas shipping areas. The seasonal-shipping-point service on east Texas tomatoes, previously operated at Jacksonville (Tex.), was conducted by the Dallas office during 1952. Seasonal peach offices were operated at Spartanburg, S. C., and Southern Pines, N. C., during the summer of 1951. Spartanburg had been without service in 1950 and North Carolina without service for several years, because of limited production. The Palisade, Colo., peach office was not operated in 1951 because of a very light crop in the area. The seasonal Louisiana Federal-State strawberry service was conducted from the State Market News Office at Baton Rouge during the 1952 season. Chilton County, Ala., peach shipments were covered this year by the Birmingham office.

In addition, 29 States and the Territory of Hawaii conducted fruit and vegetable market news services under Federal-State cooperative agreements. These services supplement the Federal service and provide a much broader coverage than could have been provided by the Federal Government alone. A new agreement was made with the Texas Department of Agriculture to provide for a leased wire drop, coverage of the San Antonio fruit and vegetable market, and coverage of the east Texas sweetpotato "deal." Agreements with Florida, South Carolina, Maryland, Pennsylvania, Virginia, and West Virginia were amended to improve the service.

Transportation reports on fruits and vegetables were issued as in past years. These include daily reports of carlot shipments, unloads of major fruits and vegetables in 100 United States and 5 Canadian markets, and truck shipment information. Collection of truck receipts

was expanded to include Dallas, Kansas City, and Pittsburgh. This information is now being collected and released currently for 19 cities with partial coverage in a twentieth market. Coverage of motortruck movement of fresh fruits and vegetables is still very inadequate.

The weekly mimeograph reports on peanuts and the semimonthly reports on honey were continued.

## **Inspection**

### ***Fresh Products***

A total of 1,257,633 carlots of fresh fruits and vegetables including farmers' stock peanuts was inspected during the year as follows: At shipping point, 688,324; in receiving markets, for commercial inspection, 45,961, and for public and private agencies, 60,030; raw products for processing plants, 388,567; farmers' stock peanuts, 74,710; and continuous inspection under consumer grades, 41.

Shipping point inspection is carried out under cooperative agreement with each of the 48 States, the Territory of Hawaii, and Puerto Rico. This year marks the first time for operations in Puerto Rico under this type of a cooperative agreement. At the close of the year, inspection was being conducted in 75 terminal markets, including new offices at Savannah, Ga., Portland, Maine, and San Juan, P. R., and a reopened office at Topeka, Kans.

A total of 105 training classes for inspectors, ranging in duration from a few days to a month, was held. These classes give careful instruction and practical training to new licensees and periodic refresher courses for trained inspectors.

The inspection service assists producers in carrying out better harvesting and marketing practices. For example, the tactful observation by an inspector to a producer that his percentage of high-quality products can be materially increased by careful handling and picking at the proper stage of maturity has been of inestimable value to the producer. Improved practices not only help producers but also provide consumers with better products.

### ***Processed Products***

The following processed products were inspected during the year: Canned fruits and vegetables, 110,850,694 cases; canned marine products, 671,074 cases; frozen products, 1,152,272,184 pounds; dried products, 316,843,797 pounds; dehydrated products, 2,199,325 pounds; and other processed products, 92,450,120 pounds. Compared with the previous fiscal year, these figures represent a decrease for canned fruits and vegetables, and marine products, and an increase for frozen, dried, and miscellaneous products. The number of plants approved to pack under continuous inspection, as of June 30, 1952, was 140, compared with 134 in 1951. There was a substantial increase in the volume of dried and frozen fruits and vegetables inspected under continuous inspection as compared with the volume in the previous year.

At the end of the year inspection was provided through 34 field offices, including a new one at Indianapolis. Thirty-six cooperative agreements for inspection were in effect with State agencies, associations of processors, or trade associations. As during the previous year, inspection was performed for the State of California to help determine compliance with the State marketing order for dates. All proc-

essed citrus products were inspected for the State of Florida to assist in determining compliance with the Florida Citrus Code of 1949.

## Standardization

### *Fresh Products*

At the end of the year, 138 standards for 72 different products were in effect. These included 38 standards for 20 fruits, 83 standards for 44 vegetables, 17 standards for 8 miscellaneous products, 31 standards for 25 raw products for processing, and 9 consumer standards.

Because of frequent changes in cultural and marketing practices and the development of new varieties, standards must be continually revised. New standards were issued for sweetpotatoes for dicing or pulping; sweetpotatoes for canning; shelled almonds; almonds in the shell; raspberries and currants for processing. New United States Standards for Florida grapefruit, oranges, and tangerines have been prepared separating these standards from the United States Standards for citrus fruits. Investigations relative to new standards were completed for collard and broccoli leaves and dandelion greens, and are in progress for brussels sprouts (for processing and for fresh market) and for Chinese cabbage.

During the year representatives of the floral industry expressed interest in the development of United States Standards for flowers. Research has been conducted on proposed standards for daffodils which are being prepared for review by the industry.

United States Standards for apples, pecans in the shell, and peaches were revised and those for winter pears were amended to include Flemish Beauty and Howell varieties. A major revision of the standards for table grapes was completed and published in the Federal Register to become effective in the following year. A proposed revision of the standards for Persian (Tahiti) limes was published in the Federal Register under notice of rule making. Investigation was completed on a proposed revision of the standards for shelled English walnuts and shelled pecans. A proposed revision of the standards for shelled white Spanish peanuts was prepared for consideration by the industry and published in the Federal Register. Initial steps were taken toward the revision of standards for farmers' stock peanuts. Additional investigation was made with a view to developing a size classification in the standards for bunched carrots. Investigation was started in connection with the development of new sizes and pack arrangements for oranges in 1 $\frac{3}{5}$ -bushel, wire-bound boxes. Revisions are also in progress in the standards for mustard greens, turnip greens, spinach leaves, green corn, and pineapples.

Requests were received for revisions in the United States Standards for cucumbers for slicing; celery; shelled almonds; sawdust pack grapes; fresh tomatoes; and bunched shallots. Requests for the development of new standards were received for avocados; bananas; topped radishes; dill; root parsley; kohlrabi; Italian hot peppers; prunes for processing; black-eyed peas for processing; and okra for processing. Revised Federal specifications were approved during the year for apples and California-Arizona oranges.

More than 1,200 visual aids, including plaster models, black and white and color photographs, and painted plexiglas color guides, were



distributed to field inspection offices. Nearly 100,000 copies of standards and 1,500 copies of various bulletins were distributed.

Work was continued on the development of objective tests for measuring the physical characteristics of quality for fresh fruits, vegetables, and edible tree nuts. Most of this work related to measurements of color of tomatoes used for processing. However, three new measuring devices were developed during the year for measuring the size of blemishes and scars on fruits and vegetables, sizing rings for measuring the diameter of grapes, and a sizing gage for measuring the thickness of almonds in the shell.

### ***Processed Products***

A total of 108 standards covering processed products were in effect at the close of the year, including new standards for diced carrots, concentrated grapefruit juice, concentrated grapefruit and orange juice blend, leafy greens (other than spinach), and black-eyed peas, and revised standards for canned green and wax beans, beets, and pears; dried raisins; and frozen apples, asparagus, lima beans, cauliflower, and spinach. In addition, proposals for standards were published but not yet in effect for canned sweet cherries, cream style corn, whole kernel corn, concentrated orange juice, fruit preserves and plums, dried currants, and frozen whole kernel corn and mixed vegetables. Studies were made relative to revision or development of standards for frozen lemon juice sweetened for lemonade, canned apples, canned pimientos, and canned fruit cocktail.

Twenty Federal specifications were developed, amended, or completely revised for apple juice, lima beans, beets, pears, sweetpotatoes, and white potatoes in cans; for frozen apricots, asparagus, lima beans, berries, cauliflower, lemon juice sweetened for lemonade, concentrated orange juice, peaches, raspberries, and strawberries; and for honey, raisins, maple sirup, and olive oil.

Comments and suggestions were made on military specifications for frozen or refrigerated concentrated apple juice, frozen concentrated orange juice, and frozen or refrigerated concentrated grape juice.

During the year visual aids for assisting the inspectors were developed for canned pear halves, frozen asparagus, frozen broccoli, and canned and frozen lima beans. In addition to the above, illustrations for grading pineapples, sweetpotatoes, sugarcane sirup, dried figs, frozen lima beans, and canned green beans were developed. More than 55,000 copies of standards and 27,000 copies of miscellaneous publications were distributed during the year.

### **Marketing Agreement and Order Programs**

At the close of the year 25 marketing agreement and order programs covering 20 fruits, vegetables, and tree nuts were in effect in 21 States. The estimated farm value of the commodities covered by these programs was nearly \$600,000,000.

Potato-marketing agreements and orders were in effect as follows: Idaho-Oregon; Colorado; Oregon-California; North Carolina-Virginia; eastern South Dakota; Washington; and the New England States, exclusive of Maine. The program for North Central potatoes was terminated in August 1951, and that in New Jersey in April 1952.

Marketing agreement and order programs were in effect at the close of the year for: California-Arizona grapefruit; California-Arizona lemons; Florida oranges, grapefruit, and tangerines; California Tokay grapes; Colorado peaches; Georgia peaches; Utah peaches; California Bartlett pears, plums, and Elberta peaches; California Buerre hardy pears; and California-Oregon-Washington winter pears. Two programs were terminated during the year: California-Arizona oranges in March 1952, and Oregon-Washington-fresh prunes at the close of the fiscal year.

Similar programs were in effect for California raisins and dried prunes; California-Oregon-Washington-Idaho hops; California almonds; Oregon-Washington filberts; Southeastern pecans; California-Oregon-Washington walnuts; Colorado peas and cauliflower. The program for dried prunes was amended during the fiscal year. Proposed amendments were under consideration at the close of the fiscal year for California-Oregon-Washington-Idaho hops and for California Tokay grapes. There were three requests for new programs received during the year. Under these programs, 250 regulatory orders were issued—about the same number as last year.

### **Canned Fruit and Vegetable Set-Asides**

During the 1951 crop season, defense food orders provided for the set-aside of 13 canned fruits and 11 canned vegetables for purchase by the military to meet defense requirements. The Quartermaster Corps procures the supplies set aside under these orders. At the request of the Munitions Board, similar orders were issued requiring set-asides for the 1952 pack of various canned fruits and vegetables.

### **Honey Price Programs**

Three types of programs were in effect for honey produced in the continental United States. These included price support (mandatory under the Agricultural Act of 1949), assistance to private traders in selling honey to approved export destinations, and encouragement of new uses for honey.

For the 1951 crop season ended March 31, 1952, price support for beekeepers was provided by means of purchase contracts between CCC and voluntary participating honey packers. Under this program CCC purchased honey from participating packers who agreed to buy from beekeepers all eligible honey offered of grade C or better up to the limit of their facilities at specified minimum prices. Nearly 18,000,000 pounds of honey were purchased under this program and distributed to school lunch and institutional outlets.

For the 1952 crop, honey prices have been supported by loans and purchase agreements. Under this program beekeepers can place their own honey under loan, storing it on their own farms, if they desire, or they can enter into purchase agreements. Cooperative associations of producers are also eligible for loans or purchase agreements. By the close of the fiscal year, which was relatively early in the marketing season, very little honey had been placed under loan and no purchase agreements had been entered into.

The supplementary export and diversion programs were designed to assist in the removal of honey in excess of domestic needs in order to minimize the quantity offered to CCC under the price-support program. Subsidy payments were made from section 32 funds to encourage exports of honey to approved countries. During the fiscal year payments were made on exports of nearly 15,000,000 pounds of honey, chiefly to Holland, Federal Republic of Germany, Belgium, France, Austria, Italy, and Switzerland. Under the diversion program designed to broaden the domestic demand for honey, payments were made on 220,000 pounds of honey during the year.

### Other Stabilization Activities

Section 32 programs providing for purchases, export payments, or diversion operations were in effect during the fiscal year for fresh apples and pears, pecans, almonds, honey, dried prunes and raisins, and apples, and both fresh and processed oranges, grapefruit, and lemons. In addition, purchases of canned snap beans, peas, tomatoes, tomato paste, tomato puree, peaches, and red sour pitted (RSP) cherries and dried prunes were made with section 6 funds.

TABLE 2.—*Summary of purchase, export payment, and diversion operations for fruits, vegetables, and honey, by type of programs, fiscal year 1952*

Type of program and commodity	Unit	Quantity	Estimated total cost
Section 32 purchase:			
Pecans.....	Pound.....	3, 313, 300	\$2, 424, 895
Honey <sup>1</sup> .....	do.....	17, 753, 556	3, 330, 000
Apples.....	Bushel.....	1, 523, 142	3, 382, 400
Concentrated orange juice.....	Gallon.....	2, 337, 483	4, 516, 627
Section 32 export:			
Prunes, dried.....	Pound.....	102, 616, 000	2, 949, 786
Raisins, dried.....	do.....	137, 306, 000	4, 066, 653
Apples, dried.....	do.....	6, 356, 975	635, 698
Apples, fresh.....	Bushel.....	2, 779, 418	3, 465, 423
Pears.....	Box.....	447, 630	559, 538
Honey.....	Pound.....	14, 539, 586	654, 282
Lemons.....	Box <sup>2</sup> .....	182, 924	296, 616
Oranges.....	do <sup>2</sup> .....	3, 291, 441	4, 676, 637
Grapefruit.....	do <sup>2</sup> .....	305, 076	231, 748
Section 32 diversion:			
Almonds.....	Pound.....	4, 274, 667	1, 284, 537
Honey.....	do.....	220, 000	9, 900
Section 6 purchase:			
Canned snap beans.....	Case.....	202, 830	683, 000
Canned peas.....	do.....	126, 540	461, 000
Canned tomatoes.....	do.....	392, 100	1, 632, 800
Canned tomato paste.....	do.....	148, 030	1, 061, 400
Canned tomato puree.....	do.....	50, 400	188, 000
Dried prunes.....	Pound.....	10, 080, 000	1, 404, 660
Canned RSP cherries.....	Case.....	243, 359	1, 256, 484
Canned peaches.....	do.....	470, 960	2, 654, 318

<sup>1</sup> Honey purchased from CCC for the school lunch and institutional feeding programs.

<sup>2</sup> Fresh and fresh equivalent.



## Research

The program for training retailers in better methods of handling and merchandising fresh fruits and vegetables was continued under contract with the United Fresh Fruit and Vegetable Association. Since the beginning of this program in November 1947, training classes for retailers of fresh fruits and vegetables have been conducted in 134 locations in 39 States, the District of Columbia, and the Territory of Hawaii. As of June 30, 1952, more than 26,000 retailers and their employees had received training.

In addition to the retailers trained, 26 merchandising managers and 234 merchandising assistants, employees of wholesalers, have been trained. These merchandising specialists follow up with the retailers after training and encourage and assist them in adapting recommended practices to individual store conditions. This work assists in keeping retailers' interest in fresh fruits and vegetables at a high level.

In January 1952, a 16-mm. motion picture entitled "Merchandising Fresh Fruits and Vegetables" was released. This film highlights many of the merchandising principles recommended in the training classes. Thirteen prints were placed in the film libraries of the University of Illinois and the University of California, where they are available for loan. Calls for the use of this film could not be filled by the limited number of prints, and additional prints have been purchased.

In addition to the films available for loan, several have been purchased by wholesalers and retailers, by other agencies such as the Extension Service, State departments of markets, trade associations, manufacturers of retail store equipment, and the Canadian Horticultural Council, and a citizen of Denmark.

In cooperation with groups in the citrus and dried fruit industries information has been obtained under contract with the Market Research Corporation of America concerning household consumer purchases of fresh citrus fruits, canned single strength and frozen concentrated juices, and dried fruits, in addition to information concerning availability of these products in retail food stores throughout the country. These data are being used by grower, shipper, and other marketing organizations as a guide in making decisions with regard to the formulation of marketing policies. These decisions concern production, processing, shipment, prices, advertising, and direct sales promotion work.

The citrus and dried fruit industries were so interested in obtaining this information that they underwrote more than half of the cost of the project during the last fiscal year and have already expressed interest in the continuation of this information during the 1953 fiscal year.

The data on availability of dried fruits in retail stores clearly indicated that one of the principal factors in the low rate of sales of domestic dates was the relatively small number of retail food stores that stocked this fruit. Availability of domestic dates in food stores has been increased substantially since the beginning of these surveys, with the result that there have been marked gains in household consumer purchases of this dried fruit.

A report of prepackaging of spinach and kale at terminal markets was published and received wide attention throughout the food indus-

try. Research on prepackaging of fresh sweet cherries was continued under contract with the Washington State Fruit Commission. A survey of the tomato prepackaging industry to determine the efficiency of various alternative methods indicated that substantial savings could be made by the industry through the adoption of more efficient methods and practices. Research on carrots similarly indicated that the industry could substantially lower costs through changes in present practices.

There has been considerable interest in the development of instruments for grading tomatoes objectively. This has brought about attempts to develop a simple, practical, and inexpensive instrument to evaluate objectively the color of raw tomatoes and canned tomato products. It has also stimulated interest in the use of a standard light source and the standardization of aids in the inspection of tomato products for color. Additional work concerning the objective measurement of color and the practical application of color instruments to grading practices is needed before changes in present grading practices can become practical.

At the Wisconsin Agricultural Experiment Station a study was begun of improved methods for determining the quality and grade characteristics of fresh and processed peas and of the yield and quality of processed peas which may be obtained from various grades and qualities of the raw product.

### **GRAIN, FLAXSEED, SOYBEANS, BEANS AND PEAS, AND SEEDS**

Production of grains, oilseeds, pulses, hay and pasture seeds, and cover crop seeds in 1951 was generally less than in 1950 and somewhat below the 1940-49 average. Production of most of these crops was not adequate to offset the increased domestic and export demand. As a result, carry-over stocks at the end of the fiscal year 1952 were substantially below those at the end of 1951—stocks of feed grains being approximately 9,000,000 tons smaller and reserves of food grains about 5,000,000 tons less.

#### **Price Support**

Price-support programs were formulated and administered for the following 1951 crops: Wheat, rye, corn, barley, oats, sorghum grains, rice, soybeans, flaxseed, dry edible beans, and many varieties of winter cover crop seeds, and hay and pasture grass seeds.

High lights of price-support operations for individual commodities in 1951 are as follows:

**WHEAT.**—National average support price, \$2.18 per bushel, based on 90 percent of the July 1, 1951, parity price. Support extended: 212,218,000 bushels, having a value of \$442,397,000.

**RYE.**—National average support price, \$1.30 per bushel, based on 75 percent of the January 15, 1951, parity price. Support extended: 517,000 bushels, having a value of \$640,000.

**CORN.**—National average support price, \$1.57 per bushel, based on 90 percent of the October 1, 1951, parity price. Support extended: 26,263,000 bushels, having a value of \$39,591,000.

**BARLEY.**—National average support price, \$1.11 per bushel, based on 75 percent of the January 15, 1951, parity price. Support extended: 16,853,000 bushels, having a value of \$17,996,000.

**OATS.**—National average support price, 72 cents per bushel, based on 75 percent of the January 15, 1951, parity price. Support extended: 13,041,000 bushels, having a value of \$8,873,000.

**SORGHUM GRAIN.**—National average support price, \$2.17 per hundred pounds, based on 75 percent of the January 15, 1951, parity price. Support extended: 8,341,000 hundredweight, having a value of \$16,641,000.

**RICE.**—National average support price, \$5.00 per hundred pounds, based on 90 percent of the parity price as of August 1, 1951. Support extended: 5,850,000 hundredweight, having a value of \$29,955,000.

**SOYBEANS.**—National average support price, \$2.45 per bushel, based on 90 percent of the January 15, 1951, parity price. Support extended: 11,087,000 bushels, having a value of \$26,993,000.

**FLAXSEED.**—National average support price, \$2.65 per bushel, based on 60 percent of the August 15, 1950, parity price. Support extended: 1,871,000 bushels, having a value of \$4,857,000.

**DRY EDIBLE BEANS.**—National average support price, \$6.69 per hundred pounds, based on 75 percent of the parity price as of January 15, 1951. Support extended: 3,080,000 hundredweight, having a value of \$22,426,000.

**HAY AND PASTURE GRASS SEED.**—Support prices ranged from 3.5 cents to \$1.25 per pound. Support extended: 188,000 hundredweight, having a value of \$9,841,000.

**WINTER COVER CROP SEEDS.**—Support prices ranged from 4 cents to 16.5 cents per pound. Support extended: 89,000 hundredweight, having a value of \$861,000.

("Support extended," as used in the preceding paragraphs, is an expression referring to the total price-support loans made and purchase agreements signed, including quantities redeemed by producers through repayment of loans and quantities not delivered under purchase agreements. "Value" refers to the amount of money disbursed by the Commodity Credit Corporation in the form of loans, with no deductions for loans repaid, plus an allowance by the CCC for its potential obligation on purchase agreements.)

## Production Adjustment

### *Acreage Allotments and Marketing Quotas*

Under existing farm legislation, the Secretary of Agriculture is required to determine each year, before specified dates, the total supply, normal supply, and marketing quota levels for each of the six "basic" agricultural commodities, including wheat, corn, and rice, and to proclaim such findings. It was apparent, prior to the beginning of the 1951-52 marketing year, that if the reserve supplies for most of the food and feed grains were to be maintained at a relatively high level during the years immediately ahead, no action should be taken that might discourage the planting of an increased acreage of these crops in 1952. On June 29, 1951, the Department announced that there would be no acreage allotments or marketing quotas on the



1952 crop of wheat. On November 28, 1951, the Department announced that there would be no acreage allotments or marketing quotas on the 1952 crops of corn and rice.

### ***Production Goals***

Continuation of hostilities in Korea and unsettled political and economic conditions in many other parts of the world made it necessary during the early part of the fiscal year 1952 to establish national and State production goals calling for increased production of fall-seeded crops for harvest in 1952, including wheat, barley, rye, oats, and flaxseed and six varieties of winter cover crop seeds. In December 1951, national and State production goals were established for 21 spring-planted crops.

In establishing goals for 1952, a thorough analysis of supplies and requirements for each crop was made to determine the production needed. In apportioning the 1952 national production goals to States, a detailed study of land utilization in each State was made to arrive at suggested State acreages for each crop that would result in maximum feasible production consistent with the maintenance of desirable conservation practices.

## **Exports**

### ***All Grains and Grain Products***

United States exports of grain and grain products totaled 671,837,000 bushels during the 12 months July 1951-June 1952, as compared with exports of 608,159,000 during the like period of 1950-51. The 1951-52 total consisted of 473,491,000 equivalent bushels of wheat, flour, and macaroni, as compared with 366,106,000 in 1950-51, and 198,346,000 equivalent bushels of other grains and products, as compared with 242,053,000 in 1950-51. "Other grains and products" include corn, oats, grain sorghums, barley, rye, corn grits, corn hominy and meal, corn starch and flour, oatmeal, and malt.

Of total exports 50 percent went to European countries, principally to Germany, the United Kingdom, the Netherlands, Belgium, Luxembourg, Italy, France, Greece, and Austria; 32 percent to the Far East, mainly to India and Japan; 11 percent to Latin America; 4 percent to the Near East, primarily Egypt and Israel; and 3 percent to "all other" countries, Canada being the principal export destination in this category.

(Exports under the International Wheat Agreement, discussed on page 10, are included in data mentioned in the preceding two paragraphs.)

## **Industry Advisory Committees**

Four meetings with advisory committees were called for the purpose of consulting with the industry on supply and distribution problems arising from the national defense program. A joint meeting of the Grain Handling and Marketing Advisory Committee and the Feed Industry Advisory Committee was held on July 19 and 20, 1951, to consider the grain supply-demand situation, and to discuss ways and means of obtaining increased production of feed grains.

The Pet Food Canners Industry Advisory Committee was called into session on July 30, 1951, to consider allocations of metal containers and to discuss possible ways of meeting a shortage of metal containers by use of glass containers or by freezing or dehydrating pet foods. A meeting of the Dry Edible Bean and Pea Industry Advisory Committee was held January 25, 1952, to consider the supply-demand situation as it applies to these two commodities and to discuss 1952 production objectives. On February 13 and 14, 1952, a second joint meeting of the Grain Handling and Marketing Advisory Committee and the Feed Industry Advisory Committee was held to consider a general review of grain supplies, requirements, and production and to review the feed and livestock situation. The meeting was also called to solicit the cooperation of the grain and feed industries in helping to promote conservation of feed grains through more efficient feeding practices and to discuss industry problems arising from handling wet and off-grade corn and the distribution of oilseed meals.

### **Foundation Seed Program**

The program under which breeder, foundation, and registered seeds are purchased, in order to increase supplies of improved varieties of grass and legume seeds, was continued. Under production contracts of 866 pounds of Buffalo alfalfa, 69 pounds of Narragansett alfalfa, 2,091 pounds of Ranger alfalfa, and 176,714 pounds of Kenland red clover seed were purchased. Production contracts have been executed for the 1952 production of seed from 79 acres of Atlantic alfalfa, 20 acres of Buffalo alfalfa, 118 acres of Narragansett alfalfa, 324 acres of Ranger alfalfa, and 835.9 acres of Kenland red clover.

### **Seed-Supply Program**

Small quantities of seeds and plant materials were procured for use in connection with the technical assistance programs of the Mutual Security Agency and the Department of State. Cooperating with indigenous plant experts, technicians in charge of these programs select the kind of crops to be experimented with and send requisitions to PMA. Many kinds of plants are requisitioned for use in improving seed stocks and in developing new kinds of crops. Approximately 248 varieties of vegetable seeds, 189 varieties of field seeds, and 90 varieties of planting materials including tree seeds, vines, scions, and plants, were purchased and shipped to Italy, Burma, Bolivia, Iran, Indochina, Formosa, Liberia, Greece, the Philippines, and Thailand.

### **Market News**

Market news reports were issued through 6 Federal offices and 11 Federal-State offices. Nearly 1,500,000 mimeographed copies of market reports, covering current prices, market conditions, and information about factors affecting the supply and demand for grains, feeds, rice, beans, peas, hops, and seeds, were issued. Over 600 radio and television stations and many farm, trade, and daily papers use these market reports in their news programs. More than 300,000 copies of market reports were prepared and released to local growers and feeders in the participating States.

States cooperating in the program were Alabama, Arkansas, California, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oregon, Tennessee, and Virginia. Special emphasis was placed on making the Federal-State market news program more effective, particularly in the Southern and Southeastern States. Because of the absence of terminal markets and large distributing centers in these areas, accurate market information on grain and feed has been difficult to obtain. Programs for reporting prices and market data for local areas, particularly in Arkansas, Louisiana, Maryland, North Carolina, and Virginia, have been developed and strengthened. This information, combined with market data and prices in the large Midwestern terminal markets, gives the farmers and feeders in these States definite knowledge upon which to base their production and marketing plans. A program for reporting supplies and distribution of wheat in the Pacific Northwest area was instituted.

### Regulatory Activities

#### *United States Grain Standards Act*

The number of grain inspections was the largest in history. The number of appeals taken from original inspections by licensees was nearly 100,000, by far the largest ever handled and approximately 26 percent more than last year. There were almost 1,500 board appeals, nearly 59 percent more than those handled a year earlier. An unusually large movement of grain for export again contributed to the large number of original inspections and appeals.

Both commercial and CCC grain as it moved for export was inspected and graded several times at interior markets, transfer points, and at the ports. The 1951 crops of wheat, corn, and barley were of generally lower quality than normal and put a heavy burden on the inspection and appeal services. The unfavorable weather during harvest was a contributing factor to the many difficult and unusual inspection problems encountered.

The corn crop from certain areas was of very poor quality, and in many cases caused the corn to be graded Sample grade. The prevailing system of discounts in the grain trade required that all these factors be determined on each lot. This made inspection difficult both for inspectors and supervisors, inasmuch as uniformity in determinations is difficult to achieve in low-quality grain.

Most of the hard red winter wheat crop in the Southwest was harvested during wet weather. In many cases wheat containing too much moisture was stored, and germ damage, musty odor, and out-of-condition grain developed to a much greater extent than in any previous crop. In the Northwest, unfavorable harvesting conditions resulted in the development of considerable sprout damage in hard red spring wheat and durum wheat.

Some barley in the Northwestern area was affected in the same way as wheat, and it became necessary to analyze much of the barley for damaged kernels, which are not ordinarily found in this crop.

Inspectors and supervisors were kept constantly advised of the various factors causing difficulties in this unusual crop year. However, conditions like those encountered made it difficult to maintain intermarket uniformity in grade.



Some complaints were received from foreign buyers concerning the inspection of soybeans for export. Inquiry showed that no irregularities had occurred in these inspections but emphasized the hazards involved in obtaining representative samples of this commodity. All grain inspection supervisors at United States ports were urged to give close supervision to all inspections of cargo soybeans.

A study was begun to determine the feasibility of using artificial light to facilitate inspection of grain loaded at night.

### ***Federal Seed Act***

Approximately 98 million pounds of agricultural and vegetable seeds valued at more than \$20,000,000 were admitted from foreign countries under the Federal Seed Act. Principal importations were 13 million pounds of crimson clover seed, 6 million pounds of alfalfa seed, 6 million pounds of red clover seed, 5 million pounds of orchard grass seed, and 2 million pounds of spinach seed.

Total actions under the interstate provisions of the Federal Seed Act increased 34 percent, largely because of a 100-percent increase in the number of recommendations for prosecution in Federal court. Most of these violations involved false labeling as to the origin of alfalfa seed, the seizure of which was reported last year. Approximately 314 State inspectors cooperated in the sampling and inspection of seed shipped in interstate commerce. The State inspectors sampled approximately 55,000 lots of seed which had been shipped in interstate commerce. A total of 855 cases were reported for further investigation. Investigations completed involved shipments or advertising that originated in 42 States. A survey revealed that little more than a third of the apparent violations detected by State inspectors were reported to Federal authorities for investigation.

A new seed-testing laboratory was established at New Brunswick, N. J., to serve the Northeastern States more adequately. The testing of seed offered for importation in the Southeast was resumed at Montgomery, Ala., and additions were made to the seed-testing staff. Variety tests on alfalfa at three locations demonstrated that alfalfa seed which was misrepresented the previous year as being of northern origin was actually from nonwinter, hardy, fast-growing varieties commonly grown in and adapted to the Southern States. Testing of seed to determine correctness of labeling with respect to variety, included plantings of 98 varieties of hybrid corn at 10 locations. The name and description of all varieties of hybrid onions were obtained as the varieties were being introduced and will be published in an effort to avoid the confusion that resulted in the use of variety names for hybrid corn. Proposed new international rules for seed testing were distributed to members of a committee of the International Seed Testing Association to bring about more uniformity of seed testing in foreign commerce.

### ***Prevention of Adulteration of Grain***

Cooperative relations with the Food and Drug Administration were continued during the year in an effort to prevent the adulteration of grain. This cooperative action had been limited to wheat in recent years but during the fiscal year 1952 it was extended to include carlots of corn.

Arrangements were made with grain inspection supervisors at Chicago, Kansas City, and Minneapolis to report violations direct to local field stations of the United States Food and Drug Administration. This procedure enables the Food and Drug Administration to take prompt seizure action or to prosecute violators. One deception sometimes practiced by shippers is to load out-of-condition grain or screenings in the bottom of a car of otherwise good quality grain. When grain loaded in this manner is shipped in interstate commerce, it is regarded as adulterated under the Federal Food, Drug, and Cosmetic Act.

Arrangements also were made for the issuance of notices to individual shippers when low-quality, out-of-condition grain is found in the course of inspection. These notices, advising the owner or custodian that the mixing of such grain with grain of higher quality would probably be in violation of the Federal Food, Drug, and Cosmetic Act, leave the way open for the grain to be diverted and disposed of, generally for animal feed. The total number of lots so classified during the year was 5,500.

### Standardization

Consideration was given to requests made by trade organizations that the flaxseed standards be revised to reduce moisture permitted in the No. 1 Grade from 11 percent to 9½ percent. After careful consideration of all information obtained at informal public hearings and in writing, it was decided not to revise the official flaxseed standards.

The official United States Standards for Beans were revised effective November 8, 1951, to permit a percentage of clean-cut weevil-bored beans in the class "Mung Beans" and to permit an additional 5 percent of beans that blend in the classes "Yelloweye" or "Old-Fashioned Yelloweye Beans."

Studies on the relationship between electrical properties and moisture content of grain were continued to determine the accuracy of calibration of electric moisture-testing equipment used in the inspection of grain. As a result of these studies two revised calibration tables were issued, one for use in testing hard red winter wheats and one for testing hard red spring wheats and white wheats (western production). This change became effective June 16, 1951. It is believed that these changes will give a more accurate moisture reading for these types of wheat.

All equipment used in the inspection of grain and other commodities is periodically checked for accuracy. The mechanical and electrical equipment is standardized directly or indirectly against master equipment maintained for that purpose at a central location. Most of the various pieces of inspection equipment throughout the country were thus checked at least once during the year.

Standardization studies of safflower seed were continued. Samples were collected and quality factors which might be included in standards were determined.

In cooperation with the Bureau of Plant Industry, Soils, and Agricultural Engineering, milling, baking, and chemical tests were made on a large number of samples of hard red spring wheat; and milling,

macaroni making, and chemical tests were made on samples of durum wheat. This work was part of a wheat-breeding program in which superior varieties of wheat for the various wheat-producing areas of the country are continually being developed, usually in cooperation with the State agricultural experiment stations.

Studies were continued to determine the milling, baking, and chemical properties of wheat taken from receipts of the various subclasses and grades of country-run wheat at the principal terminal markets.

Samples of soybean hay from a cooperative project on quality and feed value of forage, cured or preserved by various methods, were graded. Crushed hay cured more rapidly than uncrushed hay and was somewhat greener but no leafier than the uncrushed hay. The complete report on this project was made by the Bureau of Dairy Industry.

Samples of hay used in feeding trials and curing and storage studies were graded for the Agricultural Experiment Stations of Connecticut, Delaware, Georgia, New York, Ohio, Oklahoma, Vermont, and Wisconsin.

In cooperation with the Provisions Technical Committee and the Feed and Forage Technical Committee of the Federal Specifications Board, amended, revised, or new specifications for 32 commodities were prepared or reviewed.

### Market Inspection of Farm Products

The number of inspections made under the permissive inspection authority was greater than in 1951. However, the volume of beans and peas inspected was about 30 percent less. The quantity of rice inspected was the largest on record because of the exceptionally large crop and the demand for rice by the armed forces and requirements in occupied Oriental countries. In addition, about 11,500 samples of rough rice were inspected for grade and milling yield as a result of the introduction of the revised standards which embody a new principle of determining milling yield.

A large volume of beans, peas, and vegetable oils inspected for quality and condition for the account of CCC continued. The number of inspections of miscellaneous commodities, mostly flour, to assure compliance with contract specifications was smaller than in 1951, although the volume inspected for delivery to the armed services was larger.

Inspections were made of castor beans produced under the castor bean production and procurement program. These inspections were confined largely to deliveries of carlots of castor beans to mills for crushing, although castor oil delivered in return was also inspected. Samples of rough rice, wheat, and flaxseed were inspected for the Bureau of Plant Industry, Soils, and Agricultural Engineering and for the Alaska Agricultural Experiment Station. About 20 percent more alfalfa seed was verified as to origin than in 1951. The 52½ million pounds verified included 3½ million pounds of Canadian alfalfa seed which was verified as to origin for the first year. In November 1951, an inspection service was inaugurated to cover agricultural and vegetable seeds in foreign commerce.



### Activities Under the Agricultural Marketing Act

Tests were continued on weights and kinds of transparent films which would be satisfactory for packaging dry edible beans and peas and rice for retail sale. A report entitled "Trends in Packaging Materials and Equipment for Dry Edible Beans and Related Commodities" was issued. It included recommendations for packaging under a variety of conditions including such factors as size of package, temperature, humidity, and length of storage time.

The sedimentation test developed to measure the bread-baking quality of wheat was refined and simplified during the year. The modified method gives sedimentation values that can be easily read regardless of the type of wheat used. Preliminary consideration has been given to establishing tentative sedimentation value ranges for wheats used for different purposes. Such ranges will be useful in interpreting the results of tests used in the routine inspection of wheat.

The specially designed high-speed grinder-extractor and the electronic tester developed last year for the quick determination of oil quantity and quality in soybeans and flaxseed have given satisfactory results on a laboratory scale. A method of determining the oil content of soybeans based on the use of this equipment is being published. Work is progressing on the adaptation of the equipment to the determination of the oil content of flaxseed.

Studies of the comparison of the results of laboratory tests with actual milling results showed that the standards for rough rice, which were revised, effective July 1, 1951, needed very little further revision. Some progress was made on the development of suitable rice grading equipment for use in separating whole kernels from broken kernels of milled rice.

Cooperation with the Bureau of Dairy Industry was continued in feeding tests on the nutritive value of alfalfa hay to dairy heifers and milk cows. The results of feeding lespedeza hay containing varying amounts of foreign material were published, and the results of feeding U. S. No. 1 and U. S. No. 3 alfalfa hay to dairy heifers have been prepared for publication. The survey of the quality of hay produced by New Jersey farmers in cooperation with the New Jersey Agricultural Experiment Station was continued. Chemical analyses are to be made on these samples and a final report on the 4 years' work is to be issued. The information developed from this study has been very useful in the agricultural extension program in the State.

As a means of promoting greater uniformity of test results on seeds at a national level, 8 schools for experienced seed analysts were held in 7 locations scattered throughout the country. A total of 82 analysts from 64 laboratories attended.

Through research it was determined that the red coloration in the roots of sorghum seedlings is due to a natural pigment and is not a direct result of infection. This provides the basis for a more accurate and uniform classification of sorghum seedlings.

The two lines of approach in the development of a simple fat acidity test reported last year were continued during the year. Further study will be necessary. A survey to determine the normal fat acidity value of freshly harvested grains of various kinds was made

and the results published in a report entitled "Sound Grain Fat Acidity Survey—1951 Crop."

A study of the various types of grain-elevator construction showed that in order to obtain widespread adaptation of automatic samplers in grain inspection work, it would probably be necessary to use several different types of these samplers. Three different types of automatic grain samplers were installed in grain elevators near the close of the year and their performance is being studied with a view to improving grain-sampling procedures.

Contracts were executed with two experiment stations to obtain information as to where grain may be held most advantageously until it is required for food, feed, or other uses, taking into consideration particularly the maintenance of quality and maximum efficiency in handling, moving, and storing. These studies will analyze not only the storage facilities currently available but also the probable requirements for such facilities in the near future in relation to grain produced, by selected areas and by principal kinds of grain. The information will be collected and analyzed during the 1953 fiscal year.

### Other Research

Tests made in cooperation with the Bureau of Plant Industry, Soils, and Agricultural Engineering and State agricultural experiment stations developed new techniques and equipment for ventilating and aerating grain stored in CCC bins. Air drawn down through the grain mass by the use of small fans successfully cooled the grain and eliminated surface spoilage. As a result of these tests, CCC bin sites are being equipped for forced air cooling. A report was issued to bin-site superintendents covering the methods and installation of the equipment. The technique also is applicable to grain stored in bins on the farm and with slight modifications to commercial elevator storages.

Experiments on the control of insect infestation at bin sites were started last spring in Kansas in cooperation with the Bureau of Entomology and Plant Quarantine. In these tests the fumigant is recirculated through the grain, a method that is expected to reduce the quantity of chemicals required.

In cooperation with Michigan State College, equipment for drying pea beans by the use of recirculated air under controlled humidity was developed and tested. The indications are that this method will substantially reduce the number of splits and will eliminate the need for tempering periods during the drying process. The equipment will be demonstrated to producers in Michigan during the 1952 crop harvest.

Research designed to develop new markets or to expand present market outlets for price-support commodities was given impetus by the donation of Austrian Winter peas to the Washington State College to determine their relative feeding value, and of blue lupine low-germination seed to the Georgia Experiment Stations for comparative tests of its fertilizer value, particularly as a nitrogen source. Findings of these experiments are expected to be available during the 1953 fiscal year.

Experiments in cooperation with the Texas Experiment Station on the farm storage of grain sorghums in south Texas were continued, with emphasis on conditioning during storage. Studies of aeration designed to reduce heating and alternative methods of application and types of fumigants have been made. In this area, where temperatures and humidity are relatively high, aeration must be carried on intermittently throughout the storage period. Experiments are being continued to determine the frequency of ventilation and the volume of air movement required for effective control of heating. Dust protectants proved satisfactory for control of insects when grain is clean before it is placed in storage and when the moisture content is uniformly low throughout the mass—10 to 12 percent. The application of carbon dioxide for insect control was effective for very limited periods and the use of exhaust tractor gases, although effective in killing insects, heated the grain unduly. When exhaust gases were used the germination was reduced significantly. Additional tests of air-tight storage proved previous findings. Germination was reduced to zero after 3 months, objectionable odors developed, and moldy grain resulted.

Farm storage studies on flaxseed in south Texas in cooperation with the experiment station indicate that forced ventilation is effective in retarding deterioration of the seed. The volume of air necessary for varying depths of seed was established and comparisons of aeration techniques were made of sacked storage and bulk storage. Conclusions reached during the previous year as to the moisture content for safekeeping were confirmed. Flaxseed should not contain more than 7 percent moisture when stored in bulk and not more than 9 percent when stored in sacks in the south Texas area. Bin drying of this seed was impractical and uneconomical. Column driers should be used.

Recommendations were made to producers as to the type of storage structures, safe moisture levels, and techniques of drying rice on the farm as a result of experiments conducted in cooperation with the Louisiana Experiment Station. Methods tested for drying and ventilating bulk rough rice in bins did not result in eliminating the stratification of moisture. Additional studies of the application of air will be needed before an effective method of drying and cooling bulk rough rice can be recommended.

Demonstration projects intended to provide producers with available conditioning and storage techniques and facilities were continued in Georgia, Michigan, North Carolina, Tennessee, and Virginia. During the 1951 corn harvest, field days were initiated in Delaware and the initiation of a similar demonstration project was under way last spring in New Jersey.

### **LIVESTOCK, MEATS, AND WOOL**

Numbers of meat animals on farms during the fiscal year 1952 reflected the continued upswing in the production cycle started in 1949. The 88,100,000 head of cattle and calves on farms January 1, 1952, was an all-time high. Hog numbers were the highest since 1944 and sheep numbers continued to increase after declining to a record low in 1950.

Demand for meat continued strong through much of the year as employment and consumer incomes remained at high levels. Prices



of pork and pork products declined substantially as a result of heavy marketings of hogs from near-record spring and fall pig crops. Wool declined from the record prices of the previous fiscal year and were below support levels on April 1, 1952, when the 1952 price-support program for domestic wool became effective.

### Price Support

The Agricultural Act of 1949 makes the support of wool prices mandatory at levels between 60 and 90 percent of parity that will encourage an annual production of approximately 360,000,000 pounds of shorn wool. Support of mohair prices in proper relationship to wool prices also is mandatory. The national average support price for the 1952 wool clip was set at 54.2 cents per pound, grease basis, or 90 percent of the March 15, 1952, parity figure. The 1952 support price for mohair was established at 57.2 cents per pound, which was 75 percent of the March 15, 1952, parity level.

Wool prices declined through late 1951, after having reached record levels in March 1951, and were below the support level in early 1952. Price support was available to producers of domestic shorn wool through nonrecourse warehouse storage loans and to producers of domestic pulled wool through purchases as in previous support programs. Advance recourse loans on shorn wool not to exceed 70 percent of the estimated appraisal value were made available to producers through handlers, pending the putting of the wool in merchantable condition for official appraisal. After appraisal, nonrecourse loans were available to producers of shorn wool at established support levels by the Commodity Credit Corporation operating through the PMA Commodity Offices. Purchases of domestic pulled wool also were made through the PMA Commodity Offices.

The clean value of each lot or clip of wool was determined by appraisers whereas shrinkage was determined by mechanical methods.

Mohair prices exceeded the support level throughout the year, thus making support operations unnecessary.

Under existing legislation support of prices of livestock sold for meat was permissive at levels between 0 and 90 percent of the parity price. Cattle and sheep prices were far above parity levels during the fiscal year. Hog prices declined to 76 percent of parity but no program to provide a price-support level for hogs was undertaken, chiefly because a satisfactory method of support was not available.

### Procurement and Sales

Purchases of 26,500,000 pounds of smoked ham, bacon, and picnics were made during the 1952 fiscal year under a "section 32" program. Purchases of these products were made to facilitate removal of burdensome supplies of pork from the market in late April and early May when hog prices had declined to 76 percent of parity. Pork products acquired under this program will be distributed to the national school-lunch program and other eligible outlets. Prices paid for the products purchased included an average of 55 cents for 18,500,000 pounds of hams, 41.5 cents for 3,400,000 pounds of bacon, and 40 cents for 4,600,000 pounds of picnics, representing a total expenditure of \$13,500,000. Purchases were discontinued when prices

of hogs and pork products increased substantially in mid-May. The pork products purchased are scheduled for delivery during the last 4 months of the 1952 calendar year.

During 1951-52, a total of 4,000,000 pounds of lard was purchased for the Army, to be used for civilian consumption in the Ryukyu Islands, and more than 11,000,000 pounds were bought for the State Department for use in Yugoslavia, and 20 contracts, valued at approximately \$2,734,000, were executed.

### Packers and Stockyards Act

On June 30, 1952, 327 stockyards were posted, 4,963 active livestock-market agencies and dealers were registered, and 1,426 poultry sales agencies were licensed under the Packers and Stockyards Act. A total of 1,689 tariff requests (both new and changes) was received and disposed of during the year. Formal proceedings were carried out in 137 cases, of which 78 had been held over from the previous fiscal year. Of these cases 83 were disposed of and 54 were pending as the year ended. Bonds on file totaled about \$39,000,000 and represented an increase of approximately \$1,000,000 over the previous year. In view of increased economic pressures occurring in the livestock and meat-packing industries, action was taken to require increased minimum surety bonds, so that producers would have additional protection in case of insolvency or defaults by firms handling livestock.

The number of packers subject to the provisions of Title II of the act totaled 1,911. During the year, 63 additional packers were found to be subject to the act and were added to the list, but 102 firms were deleted from the list of packers during this period. Action was taken on 164 requests for increases in commission charges, yardage charges, auction-market charges, and feed margins.

Public hearings were held in Chicago on 45 of 56 formal proceedings brought against dealers involved in weighing frauds at Chicago. The remaining cases were settled, prior to hearing, through the filing by registrants of admissions that they had bribed weighmasters and their agreement to accept suspensions ranging in some cases up to 2 years. Formal hearings were conducted in Kansas City on proceedings that resulted from the Kansas City weighing investigations. Additional hearings were conducted at Abilene (Tex.) and St. Louis. The District Supervisor at Kansas City conducted a trade-practice investigation at St. Joseph on the theft of livestock from that stockyard and from packers' holding pens. The investigation disclosed that thefts of livestock, implicating stockyard employees, dealers, and certain commission firms, had been occurring at this market over a period of years.

Improvement of the general adequacy and quality of livestock scales supervised under the act was effected by requiring the replacement of obsolete and inadequate equipment. Scales found to be inaccurate were required to be adjusted or serviced immediately to weigh within allowable tolerances or to be withdrawn from service pending corrective action.

To obtain more effective administration of the act, greater responsibility has been placed on field supervisors by having them handle both rate and trade-practice investigations. Prior to approval of any proposed rate increase, field supervisors carefully review all pro-

posals, thereby enabling the Washington office to review the supervisor's suggestions and recommendations before arriving at a final decision on the application.

The accounts of 157 registrants at various terminal and auction markets were audited during the year. As conditions warranted, district supervisors developed additional information on 35 cases in which evidence of violations of the act was found. Twenty-five of these cases involved serious violations. These cases were forwarded to the Office of the Solicitor with recommendations that formal orders of inquiry be prepared for service upon the registrants. A summary of the 56 Chicago weight fraud cases, together with information concerning 8 weighmasters, and 5 packer-buyers, was forwarded to the Office of the Solicitor with the request that all material be submitted to the Department of Justice for institution of appropriate criminal proceedings.

### **Insecticide, Fungicide, and Rodenticide Act**

Sufficient information was obtained to justify registration of many new chemicals for control of such important pests as the alfalfa weevil; a number of insects attacking fruits; soil insects attacking sugarcane, corn, and a number of root crops; cotton insects; and rats in grain- and cereal-storage places.

The economic poison industry was less affected by shortages of raw materials than in the previous year, and less adulteration with substitute materials was detected. Contamination of insecticides with 2,4-D and resulting damage to crops were found, however, and there were a number of cases in which agricultural economic poisons were short weight or did not have the strength claimed by the manufacturer.

The use of new synthetic surface-active chemicals for the manufacture of germicides and disinfectants has continued to increase. Special study has been directed toward the development of more reliable performance test methods which may be employed in determining the germicidal properties of these economic poisons, since there is evidence that conventional performance testing does not provide a reliable index to the practical value of these poisons.

Large numbers of red squill and rodenticide preparations continued to be in violation of the act. Replies to citations indicated that shippers depended, to a large extent, on the guarantees given by manufacturers of these products. Tests showed that the probable reason for violation was the loss of toxicity in storage or in processing.

Apprehension that chronic poisoning of humans might occur from continued use of chlordane formulations in the household resulted in the issuance of Interpretation 19 to restrict such uses. Lindane vaporizers and the so-called insect repellent candles were manufactured in increasing numbers, but many of these products were tested and found to be totally ineffective for the purposes intended. Such products were removed from the market as rapidly as possible through court action. Tests were conducted to determine the value of sabadilla alkaloids and toxaphene against a number of agricultural insect pests which affect truck-garden products.

The most recent methods for evaluating seed-treating chemicals are being adopted. These include the chilling of the treated seeds after they have been planted in the soil to give the fungus spores a



chance to germinate and become established before they are removed to higher temperatures in which the seeds are allowed to germinate.

Original and supplemental registrations of economic poisons during the year totaled 7,614, thus bringing the total number of registrations since the act became effective to 44,100. Examinations of samples of economic poisons increased slightly from the number in the 1951 fiscal year. Of the total of 2,085, 1,034—or 49.6 percent—were from products which had not previously appeared in interstate commerce. Of these, 470 were found to be so seriously misbranded, adulterated, or otherwise in violation of the law as to warrant citation and/or seizure. In addition, 102 products were less seriously misbranded, and labeling was corrected by correspondence. Seizure proceedings were initiated on 71 shipments, including 37 different economic poisons, and prosecution was recommended on 10 shipments against 4 different manufacturers. Letters of comment or criticism were sent to registrants relative to 14,721 labelings for products submitted for registration during the year.

### Market News

The establishment of ceiling prices for meat at the wholesale level reduced the normal range of price fluctuations. The weekly supply of the various classes, grades, and cuts in relation to demand was often of greater interest than price information. Daily meat trade reports were discontinued and greater emphasis was placed on the weekly review of trade conditions in the six market areas now included in the wholesale meat-reporting program.

Beginning with the 1952 fiscal year, revised standards for grades of hogs were used in reporting hog prices. Greater emphasis was placed on the grade as well as on the weight of hogs selling in various price ranges. Market reports generally reflected improvement in the amount of information concerning the factors that determine prices and the trading practices followed at various markets.

The range sales reports, begun during the previous fiscal year, continued to grow in popularity and were used in whole or in part by an increasing number of radio stations, newspapers, and livestock publications. Work schedules were rearranged so as to allow reporters to make occasional trips through the range area during the marketing season. Reporters contacted various informed persons of the livestock industry, by telephone, for current information or confirmation of sales recently completed.

Beginning May 1, 1952, the classes, grades, and staple lengths of wool included in the weekly quotations were revised to conform to the schedule of classes, grades, and staple lengths included in the wool price-support program for 1952. These revisions make it possible for wool growers and the wool trade to make direct comparisons between the weekly price quotations and the loan price schedules released by CCC.

Development of a formula for use in calculating the relationship between livestock slaughter at 32 centers and the total actual slaughter in the United States was undertaken. It was determined that the sample, as represented by the 32 centers, especially that of calves, was not sufficiently representative of the total slaughter to provide a basis for accurately estimating the total slaughter. Arrangements were

made with the Meat Inspection Division of the Bureau of Animal Industry to obtain weekly slaughter records at a number of stations not previously included. The data on weekly slaughter in these plants during previous years has been tabulated and combined with data of the stations previously published. Inclusion of actual weekly slaughter from these additional stations is expected to provide the basis for a more accurate weekly estimate of total slaughter.

### **Standardization and Grading**

#### ***Meat***

The organization and management of the meat grading service were thoroughly surveyed during the fiscal year in order to adjust the scope of the service. Since grading of beef, veal, calf, lamb, yearling, and mutton was compulsory under Distribution Regulation 2, issued by the Office of Price Stabilization, the demand for complete coverage required extensive expansion of the field service staff. Supervisory work was strengthened by the addition of 40 assistant main station supervisors. The designation of 6 assistant national supervisors as personal representatives of the Chief of the Meat Grading Service greatly augmented the supervisory program at the national level.

During the year more than 10,000,000,000 pounds of meat of all types, classes, and grades were officially graded and certified. This is approximately three times the volume graded and certified in the previous fiscal year. On June 30, 1952, there were 530 meat graders and 67 supervisors engaged in carrying out the meat-grading program.

In addition to the work connected with the regular grading program, considerable work was done in connection with agricultural colleges, producers, and trade groups in demonstrating grades of livestock and dressed meats. Branch personnel served as official judges at seven shows of national and regional scope. These shows afforded a further opportunity to demonstrate the principles of the official grade standards.

Cooperation in the regional study on marketing slaughter livestock with the North Central Marketing Technical Committee was continued. This work consisted primarily of developing regional project plans, presenting suggestions relative to the evaluation of research data, and reviewing manuscripts for publication.

Special emphasis was placed on the development and preparation of Federal Specifications for meat and meat products. The specifications are used by the Department of Defense and other Federal agencies as the basis for procurement. Six specifications were prepared and issued in interim form for immediate use. Five additional specifications were prepared and are now being coordinated with the needs of other Federal agencies prior to issuance.

A color film strip entitled "When It's Your Turn at the Meat Counter" was released for use in demonstrating to consumers and others the selection of beef by grade and the identification and selection of cuts. A leaflet entitled "U. S. Grades for Beef" was prepared in nontechnical style for use by consumers.

### **Wool and Mohair**

A proposed set of market grades for wool was developed as a basis for fleece grading. The set consists of 6 grades represented by bulk

samples reflecting average fineness for the grades on a visual basis. Approximately 60 sets were sent to wool growers, grower organizations, dealers, and manufacturers for review. Comments of growers and the trade regarding the usefulness and acceptability of such grades will be given consideration before promulgation of official standards for United States grades of wool.

Sets of market grades for mohair were developed on a visual basis. The sets were distributed to growers, handlers, dealers, and manufacturers. Modification of the proposed grades will depend on producer and trade criticism and suggestions.

Sampling and subsampling of grease wool with a  $\frac{3}{8}$ -inch pressure coring tube for fineness determination were continued, the results being compared with those obtained from  $1\frac{1}{4}$ -inch cores drawn for shrinkage determination purposes from the same lots. The micronaire method was used in the determination of comparative fineness measurements.

Interlaboratory tests through the American Society for Testing Materials were initiated in an effort to develop an approved scale of values for use in connection with the micronaire instrument.

During the year, 205 sets of official standards for grease wool, wool top, and mohair were issued.

Improvements in laboratory techniques for subsampling and processing samples for shrinkage determination are being developed and tested. Emphasis is being placed upon development of the  $\frac{3}{8}$ -inch coring tube for both routine sampling and mechanical subsampling. Subsamples were drawn in duplicate for laboratory analysis from compressed grease wool samples. Results indicate that small cores facilitate laboratory processing of samples.

A laboratory procedure using the wool "rescour" technique was proved sufficiently accurate to be acceptable as a standard for accuracy. The sample is scoured, dried, opened, and given an additional scouring prior to laboratory analysis for impurities. Work is under way to determine the possibility of eliminating some laboratory tests for residual impurities by adjusting the scoured weight of the sample by a known constant.

Development of an acceptable standard for scoured wool continued during the year. Further advances were made in the work relating to the accuracy and adequacy of the 14-percent adjustment factor, which is applied against the clean bone-dry wool content to arrive at the shrinkage figure. Work is also under way to define an adjustment factor applicable to  $\frac{3}{8}$ -inch core samples that can also be related to top, noil, and waste yield.

### Research

Research on slaughter hogs and pork carcasses was continued under authority of the Research and Marketing Act of 1946 (RMA, Title II) for the purpose of developing objective grade standards that reflect differences in proportion of lean to fat cuts and in the quality of pork cuts. Standards for grade were prepared for official promulgation based on comment received following publication of the proposed standards in the Federal Register, October 6, 1951. The standards were field-tested during the last 2 years and were discussed at 24 field demonstrations held at various markets and at producer and industry meetings during the fiscal year.



Complete carcass cut-out data were accumulated on more than 200 sow carcasses in cooperation with the Oscar Mayer Packing Co., Madison, Wis. These data will be utilized in the development of objective standards for sow carcasses and slaughter sows.

Application of the recently revised standards for grade for beef, veal, calf, lamb, and mutton was evaluated in the field, and illustrative material designed to insure a more uniform interpretation of these grade standards was developed.

A color film strip illustrating carcasses with minimum requirements for the respective grades of beef was completed, reproduced commercially, and made available to the industry. Color pictures of carcass lamb, veal, and calf were developed into a manual with suitable legends describing each carcass and giving yields as determined by meat grading supervisors. Posters illustrating the grades of slaughter cattle were developed and are to be reproduced. Additional photographs were taken to illustrate the characteristics of various slaughter and carcass grades of barrows and gilts.

Data were collected for the third year on the project designed to evaluate the relationship of certain physical, histological, and organoleptic characteristics of beef to carcass grade. Data from the project will be summarized for a report.

Several regional and national demonstrations were conducted for college, experiment station, extension, and State department of agriculture personnel with a view to improving interpretation of the United States official standards for grades of livestock and meat. Representatives from approximately 40 States were present at these demonstrations. Live animals were graded and discussed and their carcasses observed and graded in order to correlate slaughter and carcass grades.

An analysis of fineness, staple length, and variability measurements was completed in the fiscal year 1952 on 24 lots of grease wool at the various stages of processing (card sliver, top, and noils) to determine the quantitative relationships between these characteristics in the grease wool and in the resultant top.

Research to determine usefulness of small-diameter coring devices for drawing representative samples from grease wool to be used in fineness determinations was continued. A  $\frac{1}{2}$ -inch rotary coring tube was replaced by a  $\frac{3}{8}$ -inch tube which is inserted into the wool bag by hand pressure. Results indicate that the small tube provides adequate samples for fineness and variability determinations although a sampling pattern has not been developed.

Approximately 35,000 pounds of the Dubois wool clip were prepared and combed into top. Samples were drawn from the grease wool lots for determinations of shrinkage, fineness, and staple length. Data were obtained on the relationship of fineness, variability, and staple length of the grease wool to the resultant top and on the relationship of shrinkage, as determined by the core tests, to top and noils yields.

Research into the feasibility of marketing grease wool on the basis of description was undertaken. Experimental wools prepared for market were not sold, but the basic problems and procedures involved in marketing by description were analyzed. One-half of each major lot of graded wool was labeled to show the pounds of clean wool, fineness, staple length, variability, and color according to laboratory

analysis. The remaining half of each lot was not identified. Comment from dealers indicated that sales on the basis of the real characteristics of the wool can be facilitated by such analyses.

### **Economic Analyses**

Analyses of trends and economic problems affecting various segments of the livestock, meat, and wool industries were continued for the purpose of providing basic information essential to the determination of policy and programs that contribute to desirable levels of livestock, meat, wool, and mohair production, stable prices, and efficient marketing. Estimates were made of current and prospective livestock numbers, slaughter, and of meat production. Cooperative activity with other Government agencies made necessary the preparation of estimates and forecasts of production and prices by fiscal and calendar years, as well as by quarterly, monthly, and weekly periods. Increased attention was given to an analysis of the prospect of obtaining a balance between livestock numbers and feed supplies, and to the problem of arriving at and maintaining a desirable balance.

An investigation and an analysis were made, under the provisions of Section 22 of the Agricultural Adjustment Act, as amended, to determine whether there is reason to believe that wool is being or will be imported into the United States under such conditions and in such quantities as to render or tend to render ineffective, or materially interfere with, the announced 1952 wool price-support program.

The schedule of classes and grades of shorn wool was revised for the 1952 wool price-support program by reducing materially the number of classes and grades of wool used in previous programs in order to make them conform more nearly with present marketing practices. The method adopted for establishing wool price differentials included weighting equally the recent 10-year average differentials and the recent single year's differentials.

Such a procedure is consistent with the 10-year average method of computing modernized parity. Also the use of this method tends to preserve a price differential pattern that is consistent with the historical relationships, but at the same time adjusts such relationships to reflect recent market trends.

Statistical and economic information in regard to legal minimum prices for livestock and livestock products under the Defense Production Act of 1950, as amended, was prepared and submitted to the Office of Price Stabilization for its use in administering the price control provisions of the act. During the year the factors for converting the weight of meat cuts and products to carcass weight equivalents were completed, other factors were added, and all of these factors were published.

An analysis of the probable economic effects of outbreaks of anthrax and vesicular exanthema disease in hogs on prices, marketing patterns, and supplies of hogs was made.

### **POULTRY AND POULTRY PRODUCTS**

Production of eggs, chickens, and turkeys reached record levels during the fiscal year 1952. Increases in production more than offset the growth in population, and per capita consumption of all three prod-

ucts rose as compared with that of 1951. Per capita consumption during the year amounted to approximately 405 eggs, 30 pounds of chicken, and 5.5 pounds of turkey. Each of these figures represents an all-time record.

### Price Programs

During the last 6 months of 1951, prices received by farmers for eggs averaged 52.4 cents per dozen, or 90 percent of parity, a fairly favorable price level to producers in view of feed and other production costs per bird. During the early part of 1952, however, prices to farmers declined, averaging 79 percent of parity for the 6 months, January through June 1952. As a result, a surplus removal program for eggs was announced April 9 and continued through June 30.

Prices received by producers for farm-raised chickens and for commercial broilers were low during most of the year, averaging only 80 percent of parity. The production of commercial broilers increased rapidly, nearly 25 percent more birds being marketed than during the preceding year. Because of the ease and speed with which producers can adjust production, no surplus removal program for broilers was requested by producers nor was any inaugurated during the year. By the close of the year, market supplies of farm-raised chickens were unusually heavy and producer price prospects for at least the first half of the fiscal year 1952 were not too bright.

During the first half of the fiscal year 1952, a "standby" purchase program was announced, under which, if necessary, large-size turkeys would be purchased, to assist farmers in marketing their crop. The mere announcement of the program, however, provided some strength to the market, and it was not necessary to make any purchases. Prices received by farmers for turkeys averaged 91 percent of parity during the last 6 months of 1951, and encouraged a rapid expansion in turkey production during the first half of 1952. Expansion in the production of Beltsville Small White turkeys, most of which are sold as small-sized fryer-roasters, was particularly large.

Under the purchase program carried on during May and June of 1952, about 226,000 cases of shell eggs were purchased at a cost of \$3,589,000. The purchases were made with section 32 funds.

No price-support purchases of eggs or egg products were made during the fiscal year 1952. On July 1, 1951, however, the CCC inventory of dried whole eggs totaled about 38,300,000 pounds—carried over principally from 1950 purchases, but including small quantities from 1948 and 1949 purchases. These holdings of dried whole eggs were disposed of during the fiscal year 1952 by sales, commitments to sell, and other dispositions, as follows:

<i>Program</i>	<i>Pounds</i>
Sales for export.....	9, 742, 392
Sales for domestic use.....	23, 460
Sec. 416 domestic donation program.....	5, 321, 175
Sec. 416 export donation program.....	3, 488, 639
CCC-British contract.....	16, 806, 690
CCC-Israel contract.....	1, 011, 412
Sale of edible eggs for food manufacturing purposes.....	1, 682, 514
Sale of inedible eggs for animal feeding and other nonfood uses.....	242, 441
Loss, shortage, or damage.....	2, 535
Total disposition.....	38, 321, 258



### Standards of Quality

Proposed changes in the regulations governing the grading and inspection of poultry and edible products thereof and United States classes, standards, and grades with respect thereto were published in the Federal Register on January 3, 1952. Further modifications of these proposals were again published on March 21, 1952. The regulations were published in final form and became effective on April 24, 1952.

Consumer and wholesale grades for shell eggs were slightly revised for clarification, and new procurement grades for use by Government agencies were published in the Federal Register on April 23, 1952. These were prepared in final form and published in the Federal Register on June 11, 1952, to become effective July 1, 1952.

Proposed instructions governing the processing and packing of eggs and egg products were published in the Federal Register on January 3, 1952. Final publication was made on April 1, 1952.

Grading and inspection regulations governing shell eggs and egg products (Federal Register, Part 55), were revised and recodified. All references to poultry and rabbits were deleted as new regulations covering these commodities have recently been issued separately.

Federal Register reprints of the regulations, grades, and instructions mentioned above were made available for general distribution.

Representatives of PMA met with officials of the Canadian Department of Agriculture to coordinate rules, regulations, and operating procedures relating to the grading, inspection, and certification of poultry and egg products in the United States and Canada. This cooperative action is expected to develop uniformity in standardization programs and to facilitate trading in poultry products between the two countries.

PMA participated in several meetings of the Provisions Technical Committee of the Federal Specifications Board and with representatives of the Army Quartermaster Corps to consider the development and revision of Federal specifications and military specifications for poultry, eggs, and other commodities. Progress was made in the effort to coordinate Federal and Army specifications for poultry and egg products with those of the Department of Agriculture.

In cooperation with the Bureau of Animal Industry and the Poultry Industry Egg Quality Committee, work was continued on a survey to provide information on the interior quality of eggs being produced by much of the country's foundation breeding stock. To supplement data obtained in a survey made in the spring of 1951 at a number of official egg-laying contests throughout the country, a similar survey was made in August of 1951.

### Educational Materials

A digest of the poultry grading and inspection regulations, which became effective July 1, 1951, was prepared for general distribution to the industry. A digest of the revised regulations that became effective April 24, 1952, was prepared and will be ready for distribution early in July of 1952.

Agriculture Handbook No. 31, Poultry Grading Manual, was issued in February. This manual was prepared to aid in obtaining

uniform application of the United States specifications for classes, standards, and grades of poultry.

On the basis of available data a table entitled, "Poultry: Approximate Weights and Processing Shrinkages," was published.

A color chart for consumer education entitled, "Know the Poultry You Buy," was prepared in two sizes: Wall chart 25 by 38 inches; smaller size, 12 by 18 inches (PA-170), with buying-guide information on the folds. This illustrative material will be available without charge in limited quantities for consumer educational use, and the Government Printing Office will carry a sales stock for those who need larger quantities.

A large wall chart entitled, "Interior Quality of Eggs (Recommended standards for scoring the quality of broken-out eggs)," was issued in September. This chart is in full color and illustrates 12 eggs of different broken-out qualities, each in actual size. It is being used primarily as an aid in achieving uniformity in interpreting egg quality before the candling light.

Work on the technical development of a new series of color slides illustrating egg quality has been completed, preparatory to mass reproduction for distribution of these slides on a sales basis. The series will consist of approximately 25 slides illustrating about 125 eggs of various degrees of quality. In addition to illustrating the standards for quality, the slides will show eggs in various forms—in the shell, broken out, fried, poached, and hard cooked. The slides will also show many types of abnormal eggs.

Farmers' Bulletin 2030, Marketing Farm Poultry, was issued.

Agriculture Handbook No. 25, Recommended Specifications for Standard Packs, Containers, and Packaging Materials for Poultry and Poultry Products, was issued in July 1951. These specifications were prepared to be used not only by packers, processors, and distributors, but also by educational agencies and institutions and as a guide for container manufacturers.

During the year, information on the selection and care of eggs and poultry was provided for use in publications of other agencies. Material was prepared for press releases of the Department, and assistance was given on articles written by food editors of papers and magazines. Much of this material was formulated with a view to influencing consumers to use poultry products in temporary abundance from time to time.

The consumer education program on United States standards and grades for eggs and poultry was presented at the Ninth World's Poultry Congress in Paris, France, in August 1951. An exhibit on the same subject was displayed before the American Home Economics Association.

Assistance was given in planning and presenting an egg quality exhibit at the Northeastern Poultry Producers Council Exposition in Harrisburg, Pa., in October 1951. Demonstrations were given on how to determine and measure egg quality.

Assistance also was given in conducting the annual regional egg grading school sponsored cooperatively by the Northeastern Poultry Producers Council, Rutgers University, and the New Jersey State Department of Agriculture and Markets.

### Inspection and Grading

The work of inspection and grading of poultry and poultry products was separated from that of dairy product inspection and grading and became an integral part of the Poultry Branch on July 1, 1951.

During the last fiscal year, the inspection of poultry for wholesomeness and condition expanded rapidly, and at the close of the year more than 200 plants were listed as officially approved to receive this service. On July 1, 1951, regulations were issued requiring that all New York dressed poultry, that is to be graded or is to move into eviscerating plants for further processing, must be killed and dressed in plants meeting the sanitary requirements of the poultry inspection and grading regulations. Similar regulations also became effective in connection with the grading and processing of rabbits.

There was some decline during the year in the production of frozen and dried eggs under Federal supervision as compared with production in previous years. This can be attributed primarily to discontinuance of Government purchase programs for dried eggs. The somewhat smaller volume of frozen eggs was primarily the result of market conditions generally.

Grading and inspection service to the poultry industry is financed by fees collected from those who use the service, except for a small amount of appropriated funds used to cover a minor part of national supervisory costs.

The scope of inspection and grading activity is reflected in table 3.

TABLE 3.—*Poultry products graded or inspected, fiscal years, 1951 and 1952*

Product	1951	1952 <sup>1</sup>
Shell eggs, graded.....cases.....	14, 831, 642	15, 000, 000
Frozen eggs, graded.....pounds.....	19, 507, 753	20, 000, 000
Dried eggs, graded.....do.....	254, 078, 957	70, 000, 000
Liquid, frozen, and dried eggs produced under Federal supervision.....pounds.....	375, 046, 272	250, 000, 000
Poultry, graded.....do.....	492, 505, 521	340, 000, 000
Turkeys, graded.....do.....	( <sup>2</sup> )	250, 000, 000
Live poultry, graded.....do.....	3, 437, 618	3, 901, 421
Poultry processed under U. S. Department of Agriculture sanitary standards.....pounds.....	( <sup>3</sup> )	1, 460, 000, 000
Poultry inspected for condition and wholesomeness.....pounds.....	561, 604, 156	781, 846, 979

<sup>1</sup> Partly estimated.

<sup>2</sup> Turkeys included with poultry, not tabulated separately for fiscal year 1951.

<sup>3</sup> Service inaugurated July 1951.

### Research

Research conducted under the Agricultural Marketing Act of 1946 (RMA, Title II) has given consideration to both economic and technological problems of the poultry and egg industry.

Experience has shown that more diverse problems can be studied, a better quality of research work can be conducted, and results can be obtained more quickly if the work of the Poultry Branch is supple-



mented by the work of trained specialists in State colleges and industry. Consequently, several contracts and cooperative agreements have been entered into with these groups for conducting research under the joint leadership of these groups and the Poultry Branch.

Research on four types of projects—the marketing of eggs, the marketing of poultry, the market news service, and training in marketing methods—is being carried on.

### **Egg Marketing Research**

Major emphasis of the research program is on the marketing of eggs. Twelve studies in progress or recently completed deal with quality considerations, economic and quality factors arising from mechanization, the efficiency and cost of egg collection routes, and homemakers' buying habits.

Two of the projects have to do with the determination of the factors that affect quality of liquid eggs and to the evaluation of those factors. Preliminary results of work on one of these projects indicate that the direct microscopic count is the best indication of the sanitary history and quality of the product produced. It was also determined that routine sampling may be done at the churn. This type of sample would have an advantage since it would be easy to take, and could be done at a saving of labor cost and time—there would be a gain of at least 72 hours or more in obtaining laboratory results. A large number of samples of liquid and frozen eggs, obtained cooperatively from 12 commercial plants, were analyzed.

In the other project, recently started in cooperation with the American Institute of Baking, it is hoped to find out what effect the quality of eggs has upon products in which they are used. For this study it will be necessary to standardize ingredients, equipment, and techniques, and to develop standardized methods for the evaluation of the functional characteristics of eggs and of the commercial egg products.

Various production, processing, and handling practices affect the quality of eggs. A number of these practices are being studied in a series of research projects.

It was learned through a cooperative study with Washington State College that holding eggs on the farm for 7 days will lead to a decline in quality from Grade AA to Grade A. Additional quality losses occur in marketing channels, especially in retail stores, where it is found that a large percentage of eggs are held more than 7 days. Some results of this study have been reported in technical magazines and a report, *Egg Quality from Farm to the Home*, soon will be released by Washington State College.

An investigation to determine the extent and nature of quality deterioration in dirty and cleaned eggs handled in commercial channels, to evaluate various methods of cleaning eggs, and to evaluate the effectiveness and practical application of methods of detecting and segregating washed eggs from clean unwashed eggs has been undertaken jointly with the University of California.

Seven widely recommended practices in production, handling, and marketing of eggs, research shows, result in higher quality eggs. This was learned through a research study conducted cooperatively with farmers in nine Midwestern States. The practices include:

Confinement of the laying flock; providing clean, dry floor litter; providing clean, dry nesting material; gathering eggs frequently; collecting and cooling eggs in wire baskets; cooling eggs before packing and keeping them cool; and maintaining proper humidity in egg rooms.

The farmers who followed all seven practices marketed eggs averaging 90 percent Grade A, whereas those who followed none of the practices averaged only 55 percent in Grade A. A detailed report entitled "Poultry Farm Practices and Egg Quality" (MRR 22) and a popular report, Seven Ways to Greater Egg Profit (Leaflet 327) are to be released soon.

In one study recently completed, thermostabilized eggs held in short- and long-term storage at different temperatures retained their quality much better than oil-processed and natural shell eggs. Results of this work are reported in USDA Circular No. 898, Thermostabilization of Shell Eggs; Quality Retention in Storage. USDA Circular No. 902, entitled "Consumer Acceptance of Thermostabilized, Oil-Processed, and Natural Shell Eggs," reports the results of a pilot study conducted in cooperation with large retail stores in Birmingham, Ala.

Working with private commercial plants, PMA developed a commercially practicable method for rendering liquid whole egg free of *Salmonella*-type organisms. This method consists of pasteurizing liquid whole eggs at 140° F. for 3 minutes. Details of the study are reported in USDA Circular No. 897, Pasteurization of Liquid Whole Egg Under Commercial Conditions To Eliminate *Salmonella*.

Research has been begun in cooperation with the Pennsylvania State College that will provide information on the quality and condition of eggs in various parts of egg cases. This information should lead to better ways of sampling producers' eggs, better grading when producers' lots have been consolidated, and payment more in line with the quality of eggs producers have to market.

Equipment used in handling often has an important influence on the quality, cost, and ultimate value of eggs being processed and marketed. For example, one comparison of nine different types of egg-washing machines made in cooperation with the National Egg Products Association showed that there is a considerable variation in the extent of quality decline from washing eggs in these machines. The rate of washing and the cost of the operation likewise varied greatly. A report entitled "A Study of the Washing and Storage of Dirty Eggs" will soon be issued.

Data were analyzed and a report is being prepared on egg collection routes in 10 cooperating Midwestern States. Results of the Indiana phase of the study have been reported in an Indiana Experiment Station Bulletin entitled "Poultry and Egg Truck Routes in Indiana." In the Indiana work, a time analysis chart was developed that enables an operator to compute "standard" time requirements to operate his route, and to compare his own time with the "standard time." The study also resulted in a number of specific recommendations for increasing the efficiency of route operations. The Kansas Experiment Station plans to publish a report on cost of procuring eggs and other products on farm truck routes in Kansas.

Work was started in cooperation with the University of Rhode Island on the housewife's buying habits, the source of eggs she purchases, the price she pays, and the quality of eggs she purchases. Of the consumers interviewed, 93 percent stated that they purchase their eggs from the same source throughout the year, and 55 percent stated they do not purchase eggs where they purchase most of their other groceries. From colored pictures of broken-out eggs of natural size, with accompanying profiles, 76 percent of the consumers selected the AA or A quality egg, 14 percent selected the B quality egg, and 10 percent selected the C quality egg as the best egg.

### ***Poultry Marketing Research***

Work has been continued on the problem involved in marketing poultry through the markets at New York City, Chicago, and selected secondary poultry markets. Work on the New York City and Chicago markets has been conducted under cooperative agreements with the Agricultural Experiment Stations of Cornell University and the University of Illinois, respectively. During the year several reports have been issued.

Operation of Poultry Slaughterhouses in New York City, 1949-50, an analysis of the physical and financial aspects of the operations of 19 wholesale poultry slaughterhouses, has been issued by Cornell University. Shrinkage and Mortality in Shipments of Live Chickens Received at the New York Live Poultry Terminal, 1949-50, also issued by Cornell, examines the extent and causes of shrinkage in shipments.

Another publication issued by Cornell in cooperation with PMA is entitled, "Historical Development of the New York City Live Poultry Market and Present Operation of the Live Poultry Terminal." A report on an analysis of the Chicago live poultry market, 1948-49, is being prepared by the University of Illinois. By using data from secondary sources, the Poultry Branch is preparing data on the changes in receipts of poultry on 12 terminal markets as they relate to sales off farms in various geographical regions for the years 1930-50.

Research has developed methods and techniques that improve poultry plant sanitation, better the sanitary quality of poultry, and increase the shelf-life of eviscerated and cut-up poultry held in the unfrozen state at refrigerated temperatures. Recommendations for use of in-plant chlorination and for installation of automatic washers at the end of processing lines were made and are being adopted by the industry. An article on this subject was widely distributed, and a comprehensive report is being prepared.

Assistance was given the Animal Products Division of the U. S. Army Quartermaster Food and Container Institute in planning and conducting a chicken fryer research project to find out what effect various scalding temperatures, different types of packaging, and different lengths of storage period have on the final uncooked and cooked appearance and the acceptance of fryers subjected to these conditions when cooked. Findings in this study, which will be completed in the fiscal year 1953, will be considered in relation to U. S. Department of Agriculture regulations governing the inspection and grading of poultry and to Federal and military specifications for poultry, which are developed cooperatively by the United States Department of Agriculture and the Army Quartermaster Corps personnel.



### ***Market News Research***

A study was completed on the improving of the reliability and usefulness of the market news service, and another one is now under way. One of these studies, dealing with the adequacy and accuracy of the New York City market reports on live poultry, is discussed by Cornell University in *An Appraisal of New York City Live Poultry Market Reports, 1949-50*.

The other study is designed to appraise the accuracy and adequacy of the market news service under present methods of marketing. The characteristics of reports issued are being analyzed to provide background information on the nature of prices reported and their behavior and uniformity between reports.

### ***Retailer Training***

The objective of much of the poultry marketing research is the ultimate delivery to consumers of better poultry products at lower marketing cost. With this in view, 461 retailer training classes were conducted in 20 States, from January 1951 to the end of the fiscal year 1952, for the purpose of training retailers and their employees in methods of merchandising poultry and eggs. There were 8,800 participants in these classes. In addition, 28 demonstrations were conducted with an attendance of 13,460 persons. Sixteen radio and twelve television shows were also conducted. The work is carried on by the Poultry and Egg National Board under contract with United States Department of Agriculture.

In cooperation with the University of Missouri and the University of Maryland, field work was begun to measure the effectiveness of the retailer training classes conducted in their respective States.

## **SUGAR**

PMA's sugar programs are authorized by the Sugar Act of 1948, the Commodity Credit Corporation Charter Act, and the Agricultural Marketing Act of 1946 (RMA, Title II).

Public Law 140, Eighty-second Congress, approved September 1, 1951, extended the Sugar Act of 1948 for 4 years, or until December 31, 1956. It also amended the Internal Revenue Code by extending the applicability of the excise tax on sugar for 4 years, or until June 30, 1957. In addition, it provided for increases in the statutory sugar quotas for Puerto Rico and the Virgin Islands of 170,000 and 6,000 short tons, raw value, respectively, and the establishment of a liquid sugar quota of 300,000 gallons for the British West Indies.

The Sugar Act program aims to provide domestic household and industrial consumers with adequate supplies of sugar at reasonable prices which will, at the same time, fairly and equitably maintain and protect the welfare of the domestic sugar industry. The attainment of this objective involves: (1) The determination of the total sugar requirements of consumers each year; (2) administration of quotas to regulate the entry of sugar into the continental United States from off-shore areas and the marketing of sugar by continental areas; and (3) payments to domestic producers of sugarcane and sugar beets who do not market in excess of specified quantities, who meet certain standards with respect to child labor, who pay wages deemed to be

fair under the standards established by the act, and (in the cases of processor-producers) who pay other producers for sugarcane and sugar beets prices that are determined by the Secretary of Agriculture to be fair and reasonable.

Under the CCC Charter Act, sugar is procured by the CCC under special and emergency conditions and for other Government agencies. Under the Agricultural Marketing Act of 1946 (RMA, Title II), research is conducted on the marketing of sugar and related products. Other program activities with respect to sugar and related products involve the collection and dissemination of market news and grading, inspection, and standardization work.

### Prices, Consumption Requirements, and Quotas

Prices of sugar in the world and domestic markets, following the outbreak of hostilities in Korea, reached their peaks on June 21-22, 1951, and declined sharply following that date. Moderately declining price trends continued in both markets well into February 1952, after which the domestic price recovered somewhat but the world price continued a downward trend to the end of the fiscal year. Price movements of this period constitute dramatic evidence of the stabilizing influence on the domestic sugar market provided by the Sugar Act. The price of "world" sugar, f. a. s. Cuba, decreased from a high of 8.05 cents per pound to a low of 4.05 cents between June 22, 1951, and June 10-12, 1952. During the same period, quota sugar for the United States market, f. a. s. Cuba, decreased about 1.1 cents from a high of 5.77 cents per pound, and then recovered to 5.58 cents per pound by June 30, 1952. The price at the end of the fiscal year was the equivalent of a duty-paid price, New York, of 6.45 cents. The generally quoted price of refined cane sugar declined from a high of 8.75 cents per pound early in the fiscal year to 8.15 cents near mid-year, but by the end of the year had increased to 8.80 cents.

Inventories built up during the preceding period of strongly increasing prices were the source of much of the sugar used during July, August, and September 1951, with the result that distribution of sugar by refiners, importers, and beet-sugar processors totaled only 1,825,000 short tons, raw value, during this period. This compares with 2,789,000 and 2,395,000 tons for the same months of 1950 and 1949, respectively. To compensate for this decrease in market demand the sugar requirements for 1951 were reduced from 8,250,000 to 7,900,000 tons. This and supporting actions, however, did not cause prices to fully recover to levels which would maintain the welfare of the domestic sugar industry. Accordingly, the over-all quota for the calendar year 1952 was established at 7,700,000 short tons, 400,000 tons less than would have been established if a price stimulus had not been needed. This was an important factor in the increase in prices which occurred toward the end of the fiscal year.

Quotas for the individual areas were affected, during the fiscal year, not only by changes in the requirements determinations but by deficits in 1951 quotas for the Philippines, the domestic beet-sugar area, and Hawaii totaling 390,000 tons, and by a deficit of 200,000 tons in the 1952 Philippine quota. These deficits were prorated to other sugar-producing areas as prescribed by the Sugar Act. The basic and

adjusted quotas at the end of the calendar year 1951 and at the end of the fiscal year 1952 are shown in table 4.

To assure orderly and equitable marketing the 1951 and 1952 Puerto Rican sugar quotas were allotted to individual processors. These steps were necessary because of a production in 1951 substantially in excess of quotas, a carry-over of about 120,000 tons at the end of 1951, and record production in 1952.

TABLE 4.—*Basic and adjusted sugar quotas, by production areas, calendar years 1951 and 1952*

Production area	1951 quotas, final		1952 quotas, as of June 30	
	Basic	Adjusted	Basic	Adjusted
	<i>Short tons, raw value</i>	<i>Short tons, raw value</i>	<i>Short tons, raw value</i>	<i>Short tons, raw value</i>
Domestic beet-sugar area-----	1, 800, 000	1, 700, 000	1, 800, 000	1, 800, 000
Mainland cane-sugar area-----	500, 000	500, 000	500, 000	500, 000
Hawaii-----	1, 052, 000	962, 000	1, 052, 000	1, 052, 000
Puerto Rico-----	910, 000	956, 479	910, 000	910, 000
Virgin Islands-----	6, 000	6, 306	6, 000	6, 000
Philippines-----	982, 000	782, 000	974, 000	774, 000
Cuba-----	2, 613, 960	2, 947, 175	2, 424, 571	2, 614, 571
Other foreign countries-----	36, 040	46, 040	33, 429	43, 429
Total-----	7, 900, 000	7, 900, 000	7, 700, 000	7, 700, 000

### Wage and Price Determinations

Determinations of fair and reasonable wage rates were issued for each of the five domestic sugar-producing areas. These rates covered approximately 54,000 workers in the mainland cane area (Louisiana and Florida); 95,000 in the sugar-beet area; 148,000 in Puerto Rico; 10,000 in Hawaii; and 1,000 in the Virgin Islands.

Changes in wage rates were made in Florida, Louisiana, Puerto Rico, and in the sugar-beet regions other than California, southwestern Arizona, and southern Oregon. In Florida, basic time rates for all classes of workers were increased 5 cents per hour. However, actual earnings of workers are higher than established minimums, because a considerable part of the work is done on a piecework basis and most employees paid hourly rates receive wages exceeding the minimums established. In Louisiana, basic wage rates for production, cultivation, and harvesting of sugarcane were not changed. Wage increments of the wage-price escalator scales, however, were increased from 5.0 cents to 7.5 cents per 9-hour day for production and cultivation, and from 6.5 cents to 10.0 cents per 9-hour day for harvesting. These wage increments are effective for each 10-cent increase in the average price of raw sugar above \$6 a hundredweight for each 2-week period. During the harvesting season the wage-price escalator was inoperative as raw sugar prices did not average above \$6 a hundredweight but in the production and cultivation season the increases in sugar prices resulted in wage increments of as much as 30 cents a day.



In the sugar-beet area two determinations were issued, one for the sugar-beet region of California, southwestern Arizona, and southern Oregon, and the other for the remainder of the sugar-beet area. No changes were made in the wage determination for California and contiguous areas. In the wage determination for the remainder of the sugar-beet area, no change was made in basic piecework rates for thinning and hoeing conventionally cultivated fields, weeding, and harvesting. However, the piecework rates for thinning machine-blocked fields and for thinning and hoeing fields on which no finger work is required, were increased \$1 an acre, or about 8 percent, in all except one wage district. Basic minimum hourly rates were increased 5 cents an hour in all districts covered by this determination.

In Puerto Rico, basic wage rates for all classes of workers were related to a sugar price of \$5 a hundredweight rather than \$3.80 a hundredweight as in 1951, and were increased 11 cents an 8-hour day above wage rates effective at the \$5 sugar price level in the previous year. Wage increments under the wage-price escalator were raised from 4.5 to 5.0 cents per 8-hour day for each 10-cent increase in the average price of raw sugar above \$5 for each 2-week period. The lower wage scale provided in former determinations for "interior" farms was eliminated. The effect of the changes in the wage scale was to increase minimum wage rates on other than interior farms approximately 6 percent and on farms previously classified as interior farms approximately 11 percent. Action of the wage-price escalator resulted in increases above basic rates of up to \$1.26 for an 8-hour day during the first half of the fiscal year, and, because of the change in the base sugar price from which the escalator becomes operative, up to 75 cents for an 8-hour day during the last half of the fiscal year. No change was made in the basic minimum wage provision of the determination for Hawaii which requires payment of wages as agreed upon. Under collective bargaining agreements affecting the majority of workers and binding upon both parties by provision of the determination, the basic minimum wage for unskilled workers was increased from 80 to 91 cents per hour and rates for other classes of workers were increased by approximately the same amount. The wage-price escalator resulted in further wage increases up to 10½ cents an hour.

During the fiscal year, fair price determinations were issued for all domestic sugar-producing areas. Changes occurred in determinations for Louisiana, Florida, Puerto Rico, and Hawaii. In Louisiana and Florida, basic minimum price requirements were not altered significantly but the molasses payment provisions were changed to relate such payments to more recent production data, and provision was made for negotiating payments for frozen sugarcane. In Puerto Rico, the period used for determining the sugar price quotations to which settlement with growers are related was extended to 10 months, the calculation of selling and delivery expenses was simplified, and the pricing basis for sugarcane from which overquota sugar is made was changed to conform more closely to the marketing opportunities for such sugar.

Determinations for two sugarcane crops were issued for Hawaii in the fiscal year. The 1951-crop determination, the issuance of which

was delayed until late fall, approved existing contracts with adherent planters and provided specific price terms for newly developed contracts between processors and independent growers. In the 1952-crop determination, basic prices were unchanged but provisions were included which limited allowable deductions and charges to producers which might affect the basic price for sugarcane. The actions taken were designed to require the payment to independent growers of approximately the same proportionate share of market returns as that paid to adherent planters. No changes were made in the determinations for the sugar-beet area or the Virgin Islands.

A comprehensive report summarizing and comparing costs, returns, profits, and related data for the production and processing of sugarcane for all domestic areas was issued for administrative use. The study of costs, margin requirements, and grade and package differentials for the domestic sugar-refining industry, commenced in May 1951, was completed. A study of costs, returns, profits, and related data for the production of 1951-crop sugar beets was commenced in March 1952. This study will also cover the processing of sugar beets for the three crops 1949 to 1951. A survey of labor performance in the sugar-beet area for the 1952 crop was initiated at the time thinning operations started in May.

### Payments to Growers

Pursuant to title III of the Sugar Act of 1948, conditional payments totaling nearly \$60,000,000 were made to about 70,000 sugar-beet and sugarcane producers in 23 States and in Hawaii, Puerto Rico, and the Virgin Islands with respect to the crop year 1951. These producers qualified for payments by meeting certain standards with respect to child labor, wage rates, proportionate shares established for the farms, and in the case of processor-producers, payment of fair and reasonable prices for sugar beets or sugarcane purchased from other producers. Included in these payments were about \$2,600,000 for partial crop losses resulting from causes specified in the act.

Sugar production in 1951 was less than in 1950 in all domestic areas except in Hawaii. Production in Hawaii increased from 961,000 tons in 1950 to 996,000 tons in 1951. Production in the mainland cane area and in the domestic beet area decreased from high production levels of 564,000 tons and 2,017,000 tons, respectively, in 1950 to 419,000 and 1,560,000 tons in 1951. In Puerto Rico the 1950-51 crop production of 1,238,000 tons was approximately 5 percent less than the production from the 1949-50 crop. The Virgin Islands production declined from its peak production of 10,853 tons in 1950 to 7,568 in 1951.

The revised determination of sugarcane farms in Hawaii, issued November 7, 1951, facilitated the establishment of small farms in that area for purposes of the Sugar Act. Small independent-grower farms have been established from tracts of land formerly considered as parts of large plantation farms. This resulted in an increase in the number of sugarcane farms from the 1941-50 average of 56 to 786 in 1951. Since the act provides for a higher rate of payment for small farms these growers received larger payments than heretofore.

The determination of normal yields and eligibility for abandonment and crop deficiency payments for sugarcane farms in the Virgin Islands was revised on March 7, 1952. It provides that normal farm yields shall be based on production records, during moving base periods comprising the next preceding five crops, rather than on yields obtained in fixed base periods. Normal yields are required for individual farms in computing crop-loss payments. Slight modifications in the methods of establishing local producing areas with respect to abandonment and deficiency payments were also made.

An amendment to the determination of sugar commercially recoverable from sugar beets, approved June 26, 1952, changed the method of computing the quantity of sugar for payment in more districts of the sugar-beet area, beginning with the 1952 crop. In all local areas in which processor payments for sugar beets are made on the average quality of beets marketed by all producers within a local area, Sugar Act payments will be computed on the weighted average percentage of sugar content of sugar beets in the next preceding 7 crops, rather than on the percentage of sugar content of the current crop. Although this change will accelerate payments in these districts for each crop, it will have little effect, if any, on the amount of payments made over a given period.

Proportionate shares for sugar-beet and sugarcane farms in the domestic producing areas must be established for each crop because marketing within such shares constitutes one of the conditions for payment under the act. The uncertainties which existed in the international situation following the outbreak of war in Korea resulted in the issuance of a determination on November 14, 1951, permitting unlimited marketings from the 1951-52 sugarcane crop in Puerto Rico despite a potential crop substantially larger than the marketing quotas for that area. In view of the problem of carry-over stocks of sugar in this area as a result of such a large crop, a public hearing was held in Puerto Rico in early February of 1952 to consider curtailment of the 1952-53 crop so as to maintain stocks at more normal levels. A determination was issued on January 30, 1952, permitting unlimited marketings from the 1952 crops in the sugar-beet and sugarcane areas, Hawaii, and the Virgin Islands where similar carry-over problems did not exist.

Intensive work was done to promote more effective enforcement of the child-labor and wage-rate provisions of the Sugar Act. Cooperation in obtaining child-labor compliance was sought from all segments of the sugar industry, as well as from PMA State and county offices. In addition, a cooperative arrangement was worked out with the Department of Labor whereby that Department would report to PMA any indicated violations of the child-labor provisions discovered while checking on compliance with the Fair Labor Standards Act.

The estimated total payments to be made to producers in the several domestic sugar-producing areas, the part of these payments which relates to acreage abandonment and crop deficiencies, and the number of payees for the 1950 and 1951 crop years are shown in table 5.



TABLE 5.—*Payments under the Sugar Act of 1948 and number of payees, in the several sugar-producing areas, crop years 1950 and 1951*<sup>1</sup>

Payment and payee	Domestic beet-sugar area	Mainland cane-sugar area	Hawaii	Puerto Rico <sup>2</sup>	Virgin Islands
	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>
Payments on sugar beets or sugarcane:					
1950.....	32,640,000	7,813,000	8,471,000	17,429,176	138,500
1951.....	25,078,000	5,764,000	9,143,000	17,147,500	98,000
Abandonment and deficiency payments:					
1950.....	1,110,000	22,000	-----	79,824	-----
1951.....	1,350,000	1,036,000	-----	202,850	-----
Total payments:					
1950.....	33,750,000	7,835,000	8,471,000	17,509,000	138,500
1951.....	26,428,000	6,800,000	9,143,000	17,350,000	98,000
Payees:	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
1950.....	54,970	9,070	1,219	16,181	541
1951.....	41,766	10,250	1,199	17,034	511

<sup>1</sup> Preliminary.<sup>2</sup> 1949-50 and 1950-51 crops.

### Program Research

Economic and statistical studies were made of world and of United States production, stocks, distribution, consumption, and prices of sugar and of the effect of various economic factors on the demand for and price of sugar. A special study was made of so-called invisible stocks of sugar; that is, stocks held by wholesalers, retailers, and industrial users. Quarterly data on stocks were obtained and analyzed in order to appraise the effect of stock levels on sugar distribution and the consequent effect on the consumption estimate and quotas. Other periodic surveys were made to obtain needed information on production, movement, and disappearance of sugar. The data obtained from such surveys were analyzed to provide information required in administering title II of the Sugar Act. As a byproduct of such surveys and analyses, statistics were made available to the trade with respect to: Weekly distribution of sugar by cane-sugar refiners, beet-sugar processors, importers of direct consumption sugar, and mainland cane mills. Similar data on monthly sugar distribution, as well as information on stocks, receipts, and production, were released monthly. Release also was made of reports showing the quantity of sugar delivered in each State each month. Quarterly data were obtained, analyzed, and released with respect to the quantity of sugar and dextrose distributed to each type of sugar buyer; that is, wholesaler, retailer, baker, confectioner, and soft-drink bottler. Data also were obtained and released relative to the quantity of sugar delivered in packages of less than 100 pounds, thereby giving an indication of the quantity of sugar going into household use each quarter.

Special analyses of data and information obtained for program purposes were summarized and published in a periodical entitled "Sugar Reports."

### Sugar Purchases

During the fiscal year 1952, CCC purchased, under competitive bids, approximately 38,000 short tons of Cuban refined sugar at prices ranging from 5.255 cents to 5.31 cents per pound, f. a. s. Cuban ports. This sugar was purchased for the account of the Technical Cooperation Administration (State Department) for shipment to Iran. The Transportation and Warehousing Branch of PMA made the necessary arrangements for shipment of this sugar and shipment was made from Cuba during the months of May and June 1952.

### International Sugar Agreement

Official representatives of the United States and 18 other major sugar-producing and -consuming countries, met at London, England, in March 1952, to consider the possibility of developing a new International Sugar Agreement. Such an agreement would replace the 1937 agreement, the most important provisions of which were suspended early in World War II and have been inoperative since.

At the London meeting a simplified draft of a proposed new agreement was considered. As compared with the 1937 agreement, the present proposal is broader in its scope, more affirmative in its terms, and simpler in its context. Delegates of the different countries at the March 1952 meeting, although reserving their approval of the simplified draft, or of any new agreement, agreed that the simplified draft

would be used as a working basis for further consideration and study.

The purpose of the new agreement would be to prevent the adverse effect of actual or threatened burdensome surpluses or shortages of sugar throughout the world which have too often occurred in the past. Its objectives are to assure sugar supplies to importing countries at equitable and stable prices, to increase world sugar consumption, and to maintain the purchasing power in the world market of those countries whose economies depend largely on sugar exports.

The United States has an important interest in any new International Sugar Agreement in that its specific provisions could have considerable influence on future expansion of sugar production in domestic areas and a direct bearing on the most effective administration of the Sugar Act.

### **Market News**

During the fiscal year 1951, with funds made available under the Agricultural Marketing Act of 1946 (RMA, Title II), the methods and techniques for collecting and reporting market news information on inedible molasses were developed and tested. A weekly experimental market news report was begun in January 1951. By the end of the fiscal year 1951, it was evident that the methods used for obtaining and disseminating market information were working satisfactorily and on July 1, 1951, the report was shifted to a regular basis. The Weekly Molasses Market News Report covers price, supply, and demand conditions for cane blackstrap molasses, beet molasses, citrus molasses, and hydrol (corn molasses). In addition, information is included periodically on Cuban molasses prices, production, and shipments. The information needed for the report is collected from producers, distributors, and users of molasses by telephone and telegraph the day before it is issued. The report furnishes the only published source of molasses market information and is used regularly by various segments of the trade as a basis for pricing and in bargaining. It is planned to expand market coverage to include edible molasses and sugarcane sirup.

### **Inspection, Grading, and Standardization**

With funds made available under the Agricultural Marketing Act in earlier years, standards were developed for liquid sugar, refiners' sirup, sugarcane sirup, and edible sugarcane molasses. During the fiscal years 1951 and 1952 these tentative standards were demonstrated to producers and distributors and tested under trade conditions in order to determine their workability in actual commercial practice. Also, work was initiated in the fiscal year 1951 and continued in the fiscal year 1952 to ascertain the type of inspection and grading service which could be used most efficiently in inspecting and grading these products. During the fiscal year 1952, standards for sugarcane sirup and refiners' sirup were promulgated; and at the close of the year, standards for edible sugarcane molasses were in process of issuance. Continued testing was done on tentative liquid sugar standards. An inspection handbook for sugarcane sirup was issued in collaboration with the Fruit and Vegetable Branch. Similar handbooks are in process for edible molasses and refiners' sirup. A publication entitled "U. S. Grades for Sugarcane Sirup and the Federal Grading Services" was distributed to producers and distributors of



this product. An article entitled "Color Standards for Sugarcane Sirup and Edible Sugarcane Molasses" was published. In collaboration with the Intergovernmental Committee on Preparation of Federal Specifications for the Federal Standard Stock Catalogue, the Federal specifications for sugarcane sirup are being revised to incorporate those changes indicated as desirable by the new United States Department of Agriculture standards.

### Marketing Research

A report, Marketing Industrial Molasses, was published as part of a study on the marketing structure and the possibilities for more efficient distribution of industrial molasses. It presents an analysis of the marketing practices, marketing costs, and uses of molasses and its status as a raw material in alcohol production, pointing out that the utilization of molasses by the fermentation alcohol industry is declining owing to the competition of synthetic alcohol produced from petroleum products. The report indicates also that the best long-term market expansion possibility for molasses is in its use as a livestock feed and it discusses possibilities for reducing marketing costs and expanding the molasses market, such as the use of tank trucks rather than barrels to distribute small quantities of molasses for direct farm feed use. Installation of small-size molasses-blending facilities is reported as practical because of relatively low purchase and operating costs of such facilities and the savings afforded in the form of a low-cost carbohydrate feed.

Experimental evidence was developed to encourage the delivery of fresh, clean sugarcane for processing and thereby increase sugar recovery, lessen wear on sugar mills, and lower processing costs, with consequent larger returns to producers and processors. This work was begun in Louisiana where the problem of low-quality cane marketings is most acute. Tests comparing the commercial value of clean, properly topped cane with trashy cane showed that sugar recoveries increase significantly when cane is properly cleaned and topped. This work will be expanded in the fiscal year 1953 to get more conclusive results and to ascertain the comparative costs of marketing and milling clean and trashy cane and the net economic advantage to the grower and the mill as the result of marketing a high-quality product.

A project was begun to determine the comparative costs and advantages to producers of marketing sugar to industrial users in liquid form and dry bulk form (relatively new marketing methods) and in 100-pound bags (traditional method), and the costs and advantages to industrial users of handling and using liquid sugar compared with dry sugar in 100-pound bags. Most of these cost data have been assembled.

Considerable progress also was made in gathering information on the potential market for sugar in liquid form and the possible effects on the present refined-sugar marketing structure if the use of liquid sugar by industrial users becomes widespread. Preliminary evidence indicates that marketing costs are lowered considerably if sugar is shipped in bulk or liquid form, mainly because less handling is required and bags are eliminated.

Analysis of methods and practices used in marketing sugarcane sirup and edible molasses was undertaken late in the fiscal year. Particular attention was given to determining the changes that producers

and packers should make in the quality of the product and in packing, marketing, selling, and pricing methods to regain lost markets, to reduce costs, and to improve returns. Attention was also given to the adequacy of present sources of information available to producers for evaluating market conditions and bargaining with buyers.

Detailed research on the marketing of sugarcane sirups and edible molasses and liquid and dry sugar to determine possibilities for increasing marketing efficiency will continue during the fiscal year 1953.

### Export Controls on Sugar and Molasses

Sugar and inedible molasses were placed on the export control "positive list" in September 1950. This was done to protect our quota sugar supplies and the supply of molasses needed to meet requirements. At the beginning of the fiscal year 1952 the licensing criteria for sugar permitted only small quantities of sugar to be exported while a complete embargo on molasses exports existed. As supplies improved in relation to demand during the year, the degree of control over both commodities was relaxed accordingly, and, as the fiscal year closed, complete removal of controls was being considered.

### TOBACCO

Tobacco production in 1951 totaled 2,328,000,000 pounds as compared with the 1941-50 average production of 1,842,000,000 pounds. Prices of the major types were supported throughout the fiscal year at no net loss to the Commodity Credit Corporation. Federal inspection and market news services were available free of charge to producers on all tobacco sold at auction. Marketing quotas were in effect on the principal types of tobacco, accounting for 95 percent of total United States production.

### Price Support

The tobacco price-support program was made available to growers of United States and Puerto Rican tobacco through 17 cooperative associations of growers operating under agreements with Commodity Credit Corporation. Loans on 265,329,000 pounds of tobacco totaled \$127,314,000 during the fiscal year. About 11 percent of the 1951 crop was placed under loan as compared with 7 percent of the 1950 crop.

The accompanying tabulation shows the kinds of tobacco supported, the percent of parity at which supported, and the cents-per-pound average loan level:

Kind of tobacco:	1951 crop support level (percent of parity)	1951 crop support level (cents per pound)
Flue-cured 11-14.....	90	50.7
Fire-cured 21-23.....	*75	37.4
Burley 31.....	90	49.8
Dark air-cured 35-37.....	*66½	33.2
Ohio-Miami filler 42-44.....	90	26.1
Puerto Rican filler 46.....	90	32.6
Connecticut Broadleaf 51.....	90	55.2
Connecticut Havana Seed 52.....	90	54.2
New York and Pennsylvania Havana Seed 53.....	90	28.0
Southern Wisconsin 54.....	90	27.3
Northern Wisconsin 55.....	90	33.5

\*Percentage of burley rate.

### Adjustment Operations

Marketing quotas were in effect for the 1951 crops of burley, flue-cured, fire-cured, dark air-cured, Virginia sun-cured, and cigar-filler and binder (types 42-55) tobaccos. Quotas on the 1951 crop for each of these kinds of tobacco were approved by growers in different referendums. Quotas for the 1951 crop were disapproved by growers of Maryland and cigar-filler (type 41) tobacco.

Quotas as approved by growers on the 1952 crops, together with the total acreage allotted to individual farms, were:

Kind of tobacco:	National quota (pounds)	Acreage allotment <sup>a</sup> (acres)
Burley-----	591, 000, 000	474, 786
Flue-cured-----	1, 357, 000, 000	1, 127, 531
Fire-cured-----	64, 300, 000	56, 754
Dark air-cured-----	29, 900, 000	26, 679
Virginia sun-cured-----	4, 752, 000	4, 763
Total-----	2, 046, 952, 000	1, 690, 513

During the 1952 fiscal year marketing quota referendums covering the 1953, 1954, and 1955 crops were held for Maryland, cigar-filler (type 41), cigar-filler and binder (types 42-55), fire-cured, and dark air-cured tobaccos. Growers approved quotas for 1952 for only the fire-cured and dark air-cured tobaccos.

### Marketing Agreement and Order

A marketing agreement and order program was approved, and became effective June 3, 1952, beginning with the 1952 crop of shade-grown cigar-leaf (type 62) tobacco which is produced in southwestern Georgia and north-central Florida. The program will also be in effect on subsequent crops until terminated by the Secretary of Agriculture.

### Inspection

Inspection service was maintained on all the 170 established auction markets as follows: Flue-cured, 88; fire-cured, 10; dark air-cured, 10; burley, 58; and Maryland, 4. All the tobacco sold (at auction) at those markets—about 2,356,000,000 pounds—was inspected. In addition, approximately 258,098,000 pounds of tobacco in hogsheads were inspected under cooperative agreements with 11 marketing associations in the auction areas. A total of 12,556,000 pounds of cigar leaf was inspected under cooperative agreements with 7 marketing associations, as follows: Northern Wisconsin, 73,000 pounds; Southern Wisconsin, 4,804,000; Connecticut-Massachusetts, 4,408,000; Ohio, 571,000; Pennsylvania, 800,000; and Puerto Rico, 1,900,000 pounds.

### Technical Assistance and Training Activities

Proper techniques of preparing tobacco for market were demonstrated to 71,000 tobacco growers. These demonstrations were conducted in cooperation with the Extension Service and vocational agencies and civic and farm organizations.

Nine training and refresher courses were conducted for inspectors to improve and promote uniform application of standards for grade.



Four short courses in tobacco standards and specifications, as well as in preparation of tobacco for market, were held at State colleges. Three courses in tobacco standards and specifications were held for members of the trade.

In addition, the Department, in cooperation with the States of Wisconsin, Connecticut, and Massachusetts, conducted for the first time a sample grading program. Under this program individual producers were given grade information on samples presented and information on sorting their crops for market. Approximately 600 producers submitted samples under this program.

### Market News

Market news was furnished to all auction markets. The service was provided for 13 types of tobacco at 918 warehouses located on 170 markets in 12 States. A total of 1,255 different reports (daily, weekly, and seasonal) were prepared, and 1,111,432 copies distributed. About 80 percent of these reports were furnished directly to growers for use at the time their tobacco was offered for sale; the others, distributed largely by mail, went to newspapers, radio stations, members of the trade, and numerous other persons and agencies.

Four market reviews—comprehensive compilations of market, price, and related information—were issued at the close of the season for the four classes of tobacco, and 8,820 copies were distributed.

Market news releases were furnished from the two permanent offices at Raleigh, N. C., and Lexington, Ky., and eight temporary offices were set up at points in the various belts. The annual market reviews were prepared in Washington.

Cooperative agreements covering market news were continued with the State departments of agriculture of North Carolina, Virginia, Tennessee, Kentucky, West Virginia, and Maryland.

### Tobacco Stocks

The Tobacco Stocks and Standards Act of 1929 requires that quarterly reports be made of stocks of leaf tobacco owned by dealers and manufacturers. This information, released in the Tobacco Stocks Reports, is based on schedules received from about 1,000 dealers and manufacturers in the United States and Puerto Rico.

The Annual Report on Tobacco Statistics for 1951, also required by the Tobacco Stocks and Standards Act, was released in December 1951. This publication is a compilation of the most frequently used statistics relating to tobacco.

### Tobacco Standards

After extensive research and study the following standardization work was accomplished during the fiscal year: (1) A complete revision of the Official Standard Grades of Flue-cured Tobacco, types 11a, 11b, 12, 13, and 14 was prepared for the Secretary's approval; (2) The Tentative Standard Grades for Puerto Rican cigar filler, type 46, were completely revised and reissued; (3) The Tentative Standard Grades for Pennsylvania and Ohio cigar filler tobaccos, types 41, 42, 43, and

44 were revised in certain respects, and (4) extensive investigations were conducted with a view to recommending important revisions in the Official Standard Grades for Burley Tobacco, type 31.

### **Activities Under the Agricultural Marketing Act**

During the fiscal year arrangements were completed for the participation of 20 private, State, and Federal laboratories in our research work on tobacco. This cooperative effort will be in the form of chemical analysis and will begin within the near future. In preparation for this work, samples collected from 39 burley markets have been carefully sorted and reviewed by the cooperating parties. These samples are being further prepared for physical and chemical analysis and for distribution to the participating laboratories. To facilitate this work a rotary tobacco sieve and a blender were designed and constructed and cold-storage facilities were completed and equipped for the preservation of tobacco samples. Numerous experiments were conducted to determine the techniques to follow in the preparation of tobacco samples for distribution and the procedures to establish for making physical tests.

Chemical investigations were conducted on type 12 flue-cured and on type 46 Puerto Rican cigar-filler tobaccos in an effort to correlate the physical characteristics and the various factors of quality of the several grades of these tobaccos with their chemical composition. The chemical investigation of type 11, Old Belt flue-cured tobacco was completed and a paper giving the results of this study will be published in a trade journal. Determinations of many tobacco constituents were made and it was found that the contents of ash, sugars, nitrogen, protein, oxalic and citric acids, and lignin are related to certain qualities and physical characteristics on which the tobacco grades are based. In the case of type 12 flue-cured tobacco, it was found that the content of uronic acids is directly related to the percentage of "waste" in tobacco, the greater the percentage of "waste," the higher the uronic acid content. Results obtained in these studies will be considered in the revision of old grades and the formulation of new grades for these tobacco types.

Numerous color measurements were made by using procedures and techniques developed for this purpose.

Further analyses have been made of several factors that affect the efficient operation of flue-cured auction markets and the prices paid for flue-cured tobacco. A preliminary report covering the results of this study is being prepared. In addition to demonstrating factors which affect efficient operation of the markets and the manner in which the market organization and operation affects prices, suggestions will be made for the improvement of market organization and operation.

### **NAVAL STORES**

The outstanding development in the naval stores situation during the fiscal year 1952 was the return of exports and domestic consumption to normal post-World War II levels from the abnormally higher demand levels caused by the scare buying spree during the fiscal year 1951 induced by hostilities in Korea. Thus, exports and domestic

consumption which, in the crop year ended March 31, 1951, aggregated 2,477,205 drums of rosin and 802,521 barrels of turpentine, declined 24 percent to 1,887,370 drums of rosin and 21 percent to 637,362 barrels of turpentine during the crop year ended March 31, 1952.

Combined output of gum and wood turpentine and rosin during the 1952 crop year declined 4 percent from the previous year. This decline reflected a shrinkage in gum production, wood output remaining virtually unchanged. However, this decline in production obviously could not offset the pressure on prices developed by the 20-odd percent reduction in exports and domestic consumption.

In these circumstances, producers made considerable use of the price-support program, and liquidation of CCC rosin and turpentine stocks, which had continued apace through the fiscal year 1951, came to a halt.

### Price Support

During the fiscal year 1952, both the 1951 and the 1952 Gum Naval Stores Loan Programs were in operation.

The 1951 crop of gum naval stores was supported by loans at 90 percent of parity. For the first time parity was based on the price of crude pine gum, rather than on the separate prices of turpentine and rosin, the two primary processed derivatives of the gum. At 90 percent of parity, the support level was \$128.21 per production unit, equivalent to 50 gallons of turpentine and 1,400 pounds of rosin. In terms of the two derivatives this support level amounted to 50 cents per gallon of turpentine and \$7.37 per 100 pounds of rosin.

Although market prices remained above loan values throughout the loan period, producers pledged 6 and 2 percent of the gum rosin and gum turpentine crop, respectively, in the expectation that prices would recover to near ceiling levels during the winter months of slack production. However, as already indicated, prices continued their retreat to loan levels with the result that few producers were able to redeem the rosin pledged earlier in the year. Under the 1951 program, 42,004 drums of rosin were pledged, of which only 2,123 drums, or 5 percent, were redeemed. Turpentine loans aggregated 5,580 barrels of turpentine, practically all of which were redeemed. The loan value of collateral pledged under this program totaled \$1,740,000.

The 1952 crop of gum naval stores also was supported at 90 percent of crude gum parity, or \$129.72 per production unit. The individual loan rates were 50 cents per gallon of turpentine and \$7.48 per 100 pounds of rosin, grades X through G. Because of the price decline and the early availability of the loan, 87,771 drums of rosin (approximately 40 percent of production) were placed in the loan through June 30. Turpentine pledges, through the end of the fiscal year 1952, also were heavy, totaling 17,295 barrels, or about 21 percent of output. The loan value of rosin and turpentine collateral pledged through June 30, 1952, totaled \$3,827,000. A recovery in turpentine market values to approximately 55 cents resulted in some turpentine redemptions.

Owing to low prices and to the consequent active nature of the support programs throughout the fiscal year, liquidations of about 279,000 drums of rosin remaining pledged under the 1948 and 1949 loan programs were halted.



## Market News

Since its establishment during the fiscal year 1951, the naval stores market news service has become a standard marketing guide for all segments of the naval stores trade. The principal problems have centered around winning the good will and cooperation of the industry and extending market news coverage. Outstanding progress was made in the solution of these problems during the last fiscal year.

The current market news coverage is far more thorough than it was a year ago. It is estimated that of the 24 principal firms selling gum rosin and gum turpentine, 22 are reporting sales volume and prices to the Savannah office for inclusion either in the daily or weekly reports. During the fiscal year 1952 it is estimated that the naval stores market news service reported sales representing approximately 60 percent of rosin and turpentine exports and domestic consumption. The goal for the next fiscal year remains that of attaining as close to 100 percent coverage as practicable.

The market news coverage includes steam-distilled as well as gum naval stores. Also, in addition to the daily, weekly, and monthly reports, several types of annual reports were initiated during the last year. These reports summarize reported prices during the calendar and crop years.

## Activities Under the Naval Stores Act of 1923

During the fiscal year 1952 three lines of marketing activity were carried on under the Naval Stores Act of 1923: (1) Inspection of naval stores on request by interested parties, including all turpentine and rosin pledged to CCC loans; (2) establishment of standards for naval stores products; and (3) the regulation of naval stores in interstate commerce to prevent adulteration, mislabeling, and other malpractices.

### *Inspection*

Inspection and certification of rosin totaled 625,270 drums equivalent in the fiscal year 1952, compared with 570,643 drums in the previous year. This increased inspection activity is the result of a 75,000-drum increase in the inspection of rosin packed in drums, which more than offsets the decrease in inspections of rosin in bags and tank cars, and to the greater loan activity during the fiscal year 1952 as compared with the previous year. As already indicated, approximately 130,000 drums of rosin were pledged under the 1951 and 1952 loan programs during the last fiscal year as compared with virtually none during the fiscal year 1951. This loan rosin is packed in drums and inspection is mandatory.

Turpentine inspected and certified aggregated 8,880,000 gallons equivalent compared with 8,981,000 a year ago. Although inspections of turpentine in tank cars and in drums increased during the fiscal year, the increase was not sufficient to offset the decline in inspections of turpentine in small containers. The latter development probably reflected the reduced demand for turpentine on the retail level during the winter and early spring months of this year owing primarily (and, perhaps, temporarily) to the sharp curtailment in consignment sales by packers.

Approximately 707,000 gallons of turpentine were inspected upon being loaded into tank steamers for export. The amount of turpentine so inspected was about one-third that of 1951, primarily because of the reduction in exports as a result of lack of dollar exchange.

### ***Standardization***

At present, the only official standard for rosin concerns its color. The color of the rosin determines its grade and suitability for various uses. However, increasing competition from substitute materials and the continuing search for new uses have brought about a need for developing new and, in some respects, more useful tests and, possibly, specifications or standards for the various properties of rosin, other than color, which determine suitability for use in the manufacture of synthetic resins, soaps, ester gums, gloss oils, and other end products. Much work along this line has been done in collaboration with the American Society for Testing Materials.

Accurate methods were developed for determining the acid and saponification numbers of rosin, excess volatile oil in rosin, and dissolved water in liquid naval stores products such as turpentine, dipentene, and pine oil.

Work has continued on methods for determining quantitatively the unsaponifiable matter in rosin, and for determining the quantity of rosin acids dissolved in fatty acids (as in the case of tall oil). Two methods of testing for unsaponifiable matter in rosin (which give concordant results on gum rosins) yield dissimilar results on wood rosins. The reasons for these differing reactions are under investigation.

Preliminary work has been started looking toward the establishment of standard specifications for each of the three kinds of rosin (gum, wood, and tall oil) recognized under the Naval Stores Act and for dipentene and several types of pine oil.

### ***Regulatory Work***

For the purpose of checking on the condition, quality, purity, and proper label description of turpentine sold to the public through paint, hardware, and other retail outlets, as well as to control label statements on competing paint thinners, 186 samples were collected, of which analysis was completed on 180 samples. No willful nor intentionally fraudulent cases were found, but 23 violations of some features of the Naval Stores Act were uncovered. Corrective action was taken through letter notices of a less formal nature than citation to show cause why prosecution should not be recommended.

## **AGRICULTURAL CONSERVATION**

Under its agricultural conservation program, PMA provides financial assistance to farmers carrying out certain approved soil- and water-conserving practices. Assistance to farmers, representing about half of the out-of-pocket cost of completing the practice, is either financial or—where practicable and feasible—in the form of conservation materials or services. Conservation materials include items such as lime, phosphate, and grass and legume seeds. Services include constructing terraces, dams, and drainage systems; land leveling; and the like.

A total of 2,357,000 farms or ranches was reached by the 1951 program, representing almost 58 percent of the Nation's cropland. Individual participants numbered 2,568,000. Assistance to individual participants was limited to a maximum of \$2,500, but actual assistance per participant averaged only \$95.85. Funds available for the program in the fiscal year 1952 totaled \$260,000,000.

Among the practices carried out under the 1951 program were the following:

Application of materials:		
Liming materials (standard ground limestone equivalent) _____	tons	21, 452, 000
Phosphate materials (20 percent $P_2O_5$ equivalent) _____	do	3, 086, 000
Potash materials (50 percent $K_2O$ equivalent) _____	do	461, 000
Planting of protective and green manure crops _____	acres	18, 366, 000
Seeding of increased acreage of legumes and grasses _____	do	2, 612, 000
Construction of standard terraces _____	linear feet	298, 881, 000
Construction of diversion and spreader terraces and ditches _____	rods	1, 802, 000
Dams for erosion control, storage type _____	number	11, 169
Contour farming:		
Intertilled crops _____	acres	2, 310, 000
Close-sown crops _____	do	1, 232, 000
Strip-cropping _____	do	202, 000
Strip-cropping not on contour _____	do	6, 997, 000
Construction of sod waterways _____	1,000 square feet	1, 864, 000
Protecting summer fallow _____	acres	11, 782, 000
Subsoiling _____	do	1, 055, 000
Crop residue management _____	do	3, 260, 000
Drainage:		
Open ditches _____	do	2, 017, 000
Enclosed drains _____	do	372, 000
Irrigation:		
Ditches and dikes _____	rods	787, 000
Dams and reservoirs _____	number	1, 867
Leveling land _____	acres	327, 000
Siphons, pipe, and culverts _____	rods	472, 000
Seeding pasture and rangeland _____	acres	6, 926, 000
Grazing land management _____	do	6, 355, 000
Stock water facilities:		
Dams and reservoirs for livestock _____	number	62, 723
Wells _____	do	6, 621
Springs and seeps _____	do	1, 163
Fireguards on rangeland _____	rods	3, 635, 000
Planting trees _____	acres	113, 000
Firebreaks to protect farm woodland _____	rods	4, 445, 000
Weed control _____	acres	1, 364, 000
Fencing _____	rods	3, 283, 000

(A discussion of the agricultural conservation program, with emphasis on the "farm-by-farm-first-things-first" approach, begins on page 2 of this report.)

Administration of the agricultural conservation program at the county and community levels was in the hands of locally elected farmer committees. Farmer committeemen are selected in nonpartisan elections held annually in each agricultural community in the country. Farmers in the approximately 30,000 agricultural communities elect a community committee of 3 members, 2 alternates, and a delegate to the county convention for electing the county committee.

Committeemen also are responsible for local administration of the price-support program, adjustment programs—including acreage allotments and marketing quotas—the sugar program, certain phases of the Federal crop insurance program, and they handle a great many other special assignments.



## REQUIREMENTS AND ALLOCATIONS

PMA determines domestic and foreign requirements against United States supplies of foods, fibers, and other agricultural commodities; develops short- and long-range forecasts of requirements in relation to available supplies; establishes allocations for the purpose of assuring proper distribution when available supplies are insufficient to meet all requirements; and takes the lead in developing the Department's recommendations relating to acreage and production goals.

Intra-Departmental Supply Estimates Committees assure coordination within the Department of estimates of supplies forming the bases for production and distribution planning. All Government agencies having a direct interest in food programs participate in the development of allocations through membership in the Interagency Food Committee and its commodity allocations subcommittees. In addition many of them, under delegations from the Secretary of Agriculture, act as claimants for certain countries, feeding programs, and end uses within their jurisdiction.

### Requirements Development and Review

During the 1952 fiscal year, each such claimant submitted requirements semiannually, or when significant changes occurred in previously submitted requirements. These were given thorough consideration in all production and allocation planning.

Special studies of forward requirements and anticipated supplies were prepared for use by the Food and Agriculture Organization of the United Nations and the Organization for European Economic Cooperation.

At the request of the Munitions Board of the Department of Defense, PMA undertook a study of projected food requirements during a period of full mobilization with special emphasis on the feasibility of requirements for the Armed Forces and foreign civilian aid programs, and their impact upon United States civilian supplies. Preliminary reports of the results of these studies were made available to the Munitions Board.

### Import Controls

During July 1951, PMA continued controls over imports of butter, peanuts, peanut oil, flaxseed, flaxseed screenings, linseed oil, rice, and rice products, under Defense Food Order No. 3, as amended, and suborders thereto. These controls had been in effect for several years under various statutory authorities to prevent interference with domestic price-support programs and, in the case of rice, to make certain that undesirable imports from the Far East to the United States did not occur. Exceptions to the general embargo were in effect for certain of these products.

On August 9, cheese and casein were placed under import control in conformance with the provisions of section 104 of the Defense Production Act, as amended, which became effective on July 31, 1951. During the remainder of the year, commercial imports of cheese and casein could not be made except on the basis of authorizations issued by PMA to importers. In general, individual importers were permit-

ted to bring in cheese on the basis of their annual average of imports during 1948, 1949, and 1950 calendar years, although variations of this basic formula were used when it was necessary to do so to assure equitable treatment of importers. Import authorizations for casein were generally based on each importer's "import history" during the fiscal year 1951.

During the remainder of the year, there were no additions to or deletions from the list of commodities subject to control. Defense Food Order 3, with several amendments and suborders, governed the administration of the program.

### **Allocation and Export Controls**

As a result of continued improvement in the supply requirements situation during the fiscal year 1952, most of the export controls which had been established during the previous year were removed. Controls were removed on exports, to friendly countries, of sugar, cotton, soft cotton waste, wool, wool noils, mohair, inedible molasses, sperm oil, coconut oil, palm oil, and oiticica oil. Cotton linters and medicinal castor oil which were subject to export allocations in the fiscal year 1951 may now be exported to friendly countries under an "open-end" licensing system which applies no quantitative restriction, but permits a continuing review of exports to prevent undue drain upon domestic supplies. Tung oil and commercial castor oil remain subject to quantitative export restrictions, allocations being established quarterly.

Under Defense Food Order No. 1, the domestic use of castor oil was continued subject to end-uses and inventory control. Allocations of the 1952 packs of canned vegetables and canned fruits were established in March. These allocations were accompanied by an extension of Defense Food Order No. 2 under which packers are required to reserve specified percentages of their packs for procurement by the Armed Forces. This action was taken to facilitate procurement by the Department of Defense and to assure that any burden resulting from such procurement was spread equitably among packers.

The committees on wool and cotton and cotton linters of the International Materials Conference took no action to control world supplies. The greatly improved supplies of cotton and the reduced world consumption of wool, coupled with lower prices, have eliminated the pressures for such controls.

### **Production Programing**

In the 1951 crop year, in response to the Department's goals program, farmers achieved record total agricultural production. Although the total acreage of crops planted in 1952 was about 4,000,000 acres below the 1951 level, the harvested acreage for 1952 should be about 9,500,000 acres higher than in 1951 because of the smaller abandonment.

In the development of 1952 goals, the best possible determination for each State and area of the best balance in cropland use, consistent with over-all national needs, was made, and farmers were advised accordingly. From the standpoint of farmers, the production goals program served to advise them of the acreages and production needed

to achieve the best possible balance between supplies and requirements of major agricultural crops.

For 1952, national acreage and production goals were announced for corn, wheat, cotton, oats, tame hay, all sorghums, sorghum grain, barley, rye for grain, flaxseed, soybeans for beans, rice, dry edible beans, potatoes, sweetpotatoes, selected vegetables, winter cover crop seed, and pasture and hay seeds. Goals called for sharp increases over 1951 in the production of feed grains (except oats), sweetpotatoes, and wheat. Moderate increases were requested for cotton, potatoes, flaxseed, and vegetables for fresh market. Goals for oats, soybeans, rice, and hay called for just slightly less than the 1951 level of production. No goals were established for livestock products because, in general, further increases appeared impossible until the feed supply situation improved.

A 1952 production goals handbook and supplemental handbooks and releases were prepared and distributed to assist in explaining the need for goals and to advise field workers of State goals for goal crops. The press, radio, television, leaflets, bulletins, and other information media were used to reach farmers.

In 1952, as in 1951, emphasis has centered on obtaining adequate supplies of feed grains. Reserves of feed grains built up in the 1948-50 period had been reduced considerably. A small corn crop in 1951, which also was a low-quality, highly perishable crop in the western Corn Belt, was followed by a period of heavy marketings of sows and butcher hogs, and this and other factors resulted in almost a 10-percent reduction in 1952 farrowings. During 1952-53, however, it is expected that a relatively heavy run of cattle and calves from the increasing cattle inventories will more than offset the decreased supply of pork from the smaller 1952 pig crop.

Good corn yields in 1952 appear likely as a result of favorable weather and more widespread adoption of yield-increasing practices. If these yields are realized, feed grain supplies in 1952-53 should prove adequate for the grain-consuming livestock now on farms or in prospect for 1953, but inadequate to permit any improvement in the depleted reserves of feed grains.

Rice production in 1951 reached a record level and another record crop is expected in 1952. High export demands have absorbed increased production and now account for nearly half of the total marketings. Continued production at current rates probably will be needed as long as export requirements hold at present high levels.

Production of cotton had a high priority in 1951 programing and was second only to feed grains in the 1952 goals program. Cotton stocks were greatly reduced in 1950-51 as a result of the small crop and high domestic and export demands that followed the outbreak of hostilities in Korea. Through intensified efforts by many interested agencies to obtain increased cotton acreage in 1951, and because of the high prices for the 1950 crop, farmers increased production in 1951 by about 50 percent over the 1950 level. The 1951 production of slightly more than 15,000,000 bales of cotton was sufficient to meet both domestic and export requirements. Stocks of cotton, however, remained at near-minimum levels.

Production programing for 1953 will emphasize sustained but balanced production with higher yields through proper rotation, soil and water conservation practices, and the use of other superior farm



practices such as the increased use of chemical fertilizers and pesticides.

The 1953 goals program is expected to be expanded to include not only goals for hay and grass and legume seeds, as in the past, but also goals on pasture and grassland improvement practices, and practices for the improvement of quality and efficiency of use. The improved food-grain and fiber situation will allow increased emphasis in 1953 on feed-grain production as well as on more and improved grasslands.

Because production planning is a continuing process, changes in crop prospects and utilization prospects must be kept under constant survey. Thus, the production goals for 1953 spring-planted crops will be determined only after the 1952 crop is known, and an up-to-date review of requirements has been made. Every effort will be made to fit the crop goals to supply and demand conditions so that farmers who follow the goals program will benefit and the needs of the Nation for food and fiber will be met in keeping with their importance.

## MATERIALS AND FACILITIES

PMA continued to work with the defense agencies to assure farmers and the food industries the materials, equipment, and supplies needed in meeting the Nation's requirements for food. It approved construction of facilities required on the farm and in food processing and wholesale food distribution, and issued allotments of controlled materials and priorities for noncontrolled materials and equipment in that connection. It reviewed and made recommendations on requests for accelerated amortization for tax purposes and certified defense loans for new food facilities. It bartered agricultural commodities for strategic and critical materials for the national stockpile, and worked on interagency committees in connection with the export control program.

The year opened with supplies of many types of materials and equipment scarce or barely adequate, and considerable uncertainty as to the future. During the year, at various times other shortages developed, but in general the situation improved materially. At the close of the year an otherwise favorable outlook for the materials and equipment needed for production, processing, and distribution of food was clouded by a Nation-wide steel strike. The effects of the work stoppage probably will be felt throughout the fiscal year 1953.

## Claimancy Operations

Claimancy for the materials and facilities to support production, processing, and distribution of food and fiber was largely carried out under the Controlled Materials Plan (CMP). This program, established by the Defense Production Administration (DPA) and National Production Authority (NPA), provided a procedure for distributing available supplies of steel, copper, and aluminum. Claims also were made for materials required for fertilizer, agricultural chemicals, certain container items, and certain supplies not directly controlled by CMP.

PMA operations under CMP were divided into four principal categories: Submission of requirements for nonfood materials and facilities to NPA and other defense agencies; submission of controlled ma-

materials requirements directly to DPA for construction of farm, food-processing, and wholesale food-distribution facilities; processing of applications for construction of such facilities; and assistance in obtaining priorities for materials or equipment for farmers, food processors, distributors, and farm- and food-equipment manufacturers.

Throughout the year monthly reports from PMA State committees provided current information on availability of nonfood materials and facilities. These reports aided greatly in preventing shortages which might have adversely affected farm production.

Production of manufactured goods needed in production, processing, and wholesale distribution of food, for which USDA is designated claimant under Executive Order, and which includes farm-production and food-processing machinery, containers, and electrical and transportation equipment, is the responsibility of NPA and other claimant-agencies, as is the submission of materials requirements under CMP for these products. PMA collaborated closely with NPA industry divisions in the development and support of these requirements and provided representation on top DPA committees which review and establish allotments of controlled materials for direct defense, and defense-supporting industries as well as for nondefense production. In the field of agricultural construction, however, PMA submitted controlled materials requirements directly to DPA and received direct allotments.

PMA also supported before NPA approximately 380 requests for special priorities assistance for noncontrolled materials and finished products. It was necessary, furthermore, to establish a special priorities assistance program for crawler-type tractors and 2,298 applications were processed through June 30, 1952.

### Agricultural Construction

Shortly after the start of the fiscal year, USDA's responsibility for making recommendations on applications for construction of on-farm, food-processing, and wholesale food-distribution facilities, was enlarged by the incorporation of the construction control program into CMP. Under its enlarged authority, the Department made allotments of materials and granted priorities for noncontrolled construction materials and production equipment in connection with on-farm construction and construction of food processing and wholesale distribution facilities.

New CMP regulations prohibited commencement of construction projects requiring more than specified quantities of controlled materials without prior authorization and allotment of controlled materials from the appropriate control agency. The regulations also provided that builders could self-authorize construction and apply necessary symbols and ratings to obtain needed materials, without prior approval, if the project required less than the specified amounts. For industrial construction, which included the bulk of food-processing and wholesale distribution facilities, self-certification limits were 25 tons of carbon steel, 2,000 pounds of copper, and 1,000 pounds of aluminum per calendar quarter. For on-farm and commercial construction, the limits were 2 tons of carbon steel, 200 pounds of copper, and no aluminum. As the materials supply improved late in the year, self-certification for aluminum for industrial projects was raised to 2,000

pounds per quarter. For farm and commercial construction the limits were raised to 5 tons of carbon steel, 750 pounds of copper, and 1,000 pounds of aluminum.

PMA developed procedures to carry out the construction control program which provided for review of applications for controlled materials by the appropriate PMA State and county offices and PMA commodity and functional branches. During the year 1,063 on-farm construction projects and 807 food-processing and wholesale food-distribution projects were approved; whereas 51 on-farm, and 97 food-processing, and wholesale food-distribution applications were denied.

### **Containers and Packaging**

Steel for metal cans was in very short supply at the start of the fiscal year, and NPA took steps to limit still further the less essential uses of cans. Tin plate inventories were at such low levels that from June through September 1951, can companies were forced to reduce shipments to users other than packers of perishable foods to quantities less than the quotas established by NPA. In January 1952, however, tin plate inventories had improved to such an extent that it was possible to increase can quotas for the packing of several important low-cost foods which previously had been limited to provide for more perishable items. Container availability continued to improve and quotas were further relaxed in May. Increased production of glass containers also helped to relieve the shortage of tin cans.

As the year ended, the promising outlook for tin cans was reversed by the steel strike. A possible shortage of cans and serious loss of perishable crops already growing seemed imminent. On the basis of PMA's recommendations, NPA took numerous steps to channel existing stocks to the perishable food pack. On June 30, 1952, certain material specifications for cans were suspended and manufacturers were directed to give preference to the perishable food pack. In addition, voluntary preference was given at all levels of industry.

Supplies of steel shipping drums and pails were short at the beginning of the fiscal year 1952, and the same situation prevailed in such packaging materials as polyethylene, cellophane, aluminum foil, and burlap. By the end of the year, however, supplies of drums and pails and of the other mentioned packaging materials reached a fairly even balance with demand. Supplies of cotton bags, cotton pick sacks, and of wire-bound boxes and crates, baskets, and hampers were adequate throughout the year.

### **Farm Machinery and Equipment**

The supply of farm machinery and equipment generally was adequate to meet farmers' needs, although heavy wheel tractors, heavy crawler-type tractors, repair parts for crawlers, and some types of labor-saving equipment were relatively tight.

A survey of farm-machinery requirements, conducted through State and county PMA committees, showed that for the 1952 crop year farmers needed, on the average, 15 percent more new farm machinery and equipment and 20 percent more repair parts than were available in 1949. A summary of 1952 requirements for farm machinery and equipment based on the results of this survey was submitted to DPA.



State PMA committees also estimated requirements for the 1953 crop year. The new survey revealed only a slight increase in the requirements for new farm machinery and equipment during the 1953 crop year but higher requirements for repair and replacement parts as a result of increasing farm mechanization, more intensive use of machinery, and more complex nature of newer machinery.

When the Controlled Materials Plan was put into effect July 1, 1951, farm machinery manufacturers were in a position to obtain immediate benefit because of a special PMA-sponsored NPA regulation which had previously permitted them to use priority ratings in placing orders for raw materials and components for July, August, and September delivery.

This, plus the fact that farm-equipment manufacturers' inventories of raw materials were in relatively good shape, enabled the industry to hold production to about the 1949 rate in the early months of the fiscal year. By December, however, raw-materials inventories were virtually exhausted and, by January, production had dropped to an over-all rate which, if continued, would have filled only between 80 and 85 percent of agriculture's requirements.

In view of this reduced production level, in January the Department asked Agricultural Mobilization Committees to intensify their efforts to encourage farmers to maintain the equipment already on farms in good repair and running order and also asked the farm-equipment industry to gear production and distribution of repair parts accordingly.

Farm-equipment production apparently hit its low point in January but thereafter improved steadily as controlled-materials allotments were increased and earlier procurement difficulties gradually disappeared. At the end of the fiscal year the production rate had returned to about the 1949 level and was close to 90 percent of the rate needed to meet agriculture's requirements.

The aluminum supply improved considerably during the last 6 months of the year as the result of expanded aluminum-production capacity and it was possible for NPA to raise allotments for portable irrigation equipment more nearly in line with requirements in contrast to the severely restricted levels in the first half of the fiscal year.

Special attention was given by PMA during the year to requirements for mechanical cotton-harvesting equipment. Through the cooperation of NPA, all manufacturers were given allotments sufficient to permit capacity production. PMA also expedited materials, equipment, and facilities requirements for the Department's defense-production project for expansion of domestic castor-bean production. Controlled-materials allotments were obtained for production of the special castor-bean equipment and installation of receiving centers in the producing areas.

Production of farm machinery and equipment had not been materially affected by the work stoppage in the steel industry as the year closed, inasmuch as manufacturers were continuing production schedules by using up inventory accumulations. Fortunately, production of most essential equipment needed for 1952 crops was fairly well completed. The full effect of suspended steel production will be evident in a reduced output of tractors and farm equipment needed for 1953 spring-crop work.

### **Crawler-Type Tractors**

Crawler-type tractors were in tight supply throughout the year. Although production for several months before the beginning of the year was at a rate somewhat higher than the immediate pre-Korea years, allotments of controlled materials to crawler-type tractor producers in the first 6 months of the year did not permit production at a rate high enough to meet defense and other essential needs. The crawler-tractor supply situation was further complicated by a 2-month work stoppage in the plant of a major producer.

Farmers and agricultural custom operators, who historically buy about 30 to 35 percent of the total supply, were getting far fewer crawlers than they needed. Consequently an agreement was negotiated with NPA whereby PMA in November began recommending priorities for individual farmers, custom operators, and others engaged in agricultural work who could not obtain the desired make and model or a comparable substitute without a priority rating. Applications for 2,298 crawlers, filed with the county offices and screened by county and State PMA committees and by the PMA farm-machinery staff in Washington, were recommended to NPA. All those recommended were approved and ratings issued. Although the number of requests for priority ratings had declined as the year ended, ratings were still being recommended.

Allocations of controlled materials to producers of crawler-type tractors for the last 6 months of the year were progressively increased as the materials supply improved. However, increased production which resulted from higher materials allocations was not sufficient to meet the backlog of orders plus current demands, particularly for the heavier models. At the close of the year it required several months for farmers to obtain certain makes and models of crawler-type tractors even with priority ratings.

### **Food- and Fiber-Processing Facilities and Equipment**

The essentiality of the food-processing industry was recognized by the defense control agencies and adequate allotments of materials were made to manufacturers for the fabrication of machinery to process all agricultural crops. Although fabricators of food machinery did not always receive as much metal as they desired, and some substitutions had to be made, machinery production was adequate.

A program, begun in the previous fiscal year, was continued to expand cotton-ginning facilities in new areas, principally west Texas, Arizona, and California, and to replace worn-out and obsolete facilities in the older areas of cotton production. The program had as its goal 250 new, average-type, five-stand gins, principally in the West and Southwest, and the construction of the equivalent in machinery and buildings of approximately 200 new gins for replacement of worn-out, burned, or obsolete facilities throughout the cotton-producing States. Through the special assistance extended by NPA in obtaining production of ginning machinery and prefabricated buildings, substantial progress was made under this program.

### Farm Supplies

Some of the important farm supplies were in short supply at the beginning of the year and a number of spot shortages of various items occurred during the year. Nevertheless, supplies of most items were sufficient to meet essential farm requirements. Prior to the steel strike the 1953 supply outlook for most items was favorable, but set-backs in production were expected to postpone until well into 1953 the reaching of a favorable balance between supply and demand for some important items made of steel.

Electric motors, generators, internal-combustion engines, implement and truck tires, bale ties, coiled wire, and baler and binder twine, were difficult to get early in the year, but were generally available by the end of the year. After legislation was enacted discontinuing the import duty on baler twine, imports increased substantially. Domestic manufacturers also increased their production greatly.

Standard steel-mill pipe and water-well casing, including the larger diameters, were short throughout the year, whereas fabricated-type water-well casing and irrigation pipe were in fairly satisfactory supply. The supply of galvanized pipe and well casing improved rapidly during the year.

Heavy military procurement of barbed wire created a shortage during the first half of the year. During the last half of the year production was at capacity with military purchases considerably lighter so that the domestic supply of barbed wire was at an all-time high. However, shortages were again in prospect as the year ended because of the interruption in steel production.

PMA again obtained directives on the three domestic producers of cotton bale ties to obtain a sufficient tonnage of ties for a 16-million bale crop. However, part of the planned production was lost during the steel mill strike in June. Four thousand tons of foreign ties were ordered for July delivery and an additional 14,000 tons were available in foreign markets to replace the domestic production lost because of the strike.

Production of aluminum roofing and siding was drastically curtailed at the beginning of the year to conserve aluminum for the defense program. The shortage of aluminum roofing also was accentuated by the short supply of galvanized steel roofing which has not been in free supply since before World War II. Due to an expansion of aluminum production capacity and some decline in military requirements, the supply of aluminum roofing improved near the end of the year and may offset to some extent the less favorable outlook for galvanized roofing.

Copper products, including wire, were scarce throughout the year, but arrangements made in May 1952 for substantially larger imports of copper improved the outlook somewhat.

Petroleum fuels, except aviation gasoline, were ample during most of the year but were threatened by a refinery strike during the spring. The Petroleum Administration for Defense arranged for equitable distribution of available supplies. With respect to aviation gasoline, it provided for all the fuel needed "for carrying out of seeding, fertilization, or pest or noxious growth control operations in connection with the production of agricultural crops or the carrying out of pro-



tection operations against fire, insects, and disease in connection with forests."

Bottled gas, storage batteries, black pipe, and hand and edged tools, were in adequate supply throughout the year.

Arrangements were made to obtain ample supplies of pressure canners and of ammunition for predator control.

### Fertilizer

The total supply of the three primary plant nutrients during the fiscal year was somewhat greater than during the previous fiscal year. Another small increase also probably occurred in the consumption of commercial fertilizer mixtures and straight goods from the 21,000,000 tons consumed in the previous year. Percentagewise, this increase probably was not as great as the increase in plant nutrient content, however, which reflects the trend toward more widespread use of higher-analysis mixed fertilizers and of straight goods.

Despite the increase in the supply of plant nutrients, local seasonal shortages, particularly of straight goods and high-analysis mixed fertilizers, were reported from the field, although the supply of conventional mixtures apparently met the demand in all areas.

Nitrogen and potash accounted for the increase in plant nutrients, as phosphate supplies barely kept pace with the previous year. Nitrogen supplies totaled approximately 1,425,000 tons, 11 percent greater than the 1,285,000 tons, N basis, available during the previous fiscal year. Phosphate supplies were about the same as the 2,235,000 tons,  $P_2O_5$  basis, available during the preceding year, although a reduction was threatened early in the year because of the sulfur shortage. Potash supplies increased by nearly 11 percent to about 1,585,000 tons,  $K_2O$  basis, from the 1,445,000 tons available in 1950-51.

Fertilizer requirements were developed for 1955 and a program planned to expand the industry's capacity to meet these requirements as shown in table 6.

TABLE 6.—*Estimated fertilizer requirements for 1955 crop year*

Plant nutrient	Supply for 1951 crop year	Require- ment 1955 crop year	Percent- age increase
	1,000 tons	1,000 tons	Percent
Nitrogen.....	1, 285	2, 185	70
Phosphate.....	2, 235	3, 485	55
Potash.....	1, 445	2, 185	51

These goals would provide for the food needs of our expanding population and some improvement in productivity of the Nation's farm land preparatory to meeting even greater demands in the future.

Because of the strategic importance of nitrogen in many phases of national defense, a program was developed jointly with DPA, and formalized by issuance of DPA Expansion Goal No. 9. This program calls for increasing over-all output of the industry by 1955 to 180 percent of its January 1, 1951, capacity. More than two-thirds of the

increase is scheduled for fertilizer purposes. A study was made and the findings submitted to NPA on requirements for controlled materials for the ammonia plant expansion program.

In planning with NPA to develop a productive capacity for phosphates by 1955 more nearly in line with requirements, information was obtained from the Nation's 224 producers of normal and triple-superphosphate and wet process phosphoric acid. The study covered the 1951 plant capacity, product output, and raw materials usage of the various plants. These were considered in the light of the 1955 goal—a 55-percent increase by 1955 over the 1951 supply is considered necessary. The study showed that the greatest need for increased production is west of the Mississippi River.

Limited supplies of sulfur and sulfuric acid continued to cloud the future of phosphate production. Efforts are being made to maximize the recovery of these materials and NPA has authorized several sulfur-recovery projects and expansion of facilities for the production of sulfuric acid from byproduct sources. The defense agencies have been urged to approve construction of four plants for production of nitraphosphates, materials containing both nitrogen and phosphorous, by processes involving substitution of nitric acid for some or all of the sulfuric acid.

The five major domestic producers of potash which operated throughout the year, and a sixth one operating during the last 5 months, produced about 1,350,000 tons  $K_2O$  basis, during the 12 months ended May 31, 1952. Studies indicated that the industry is operating at near capacity but will be able to expand its capacity to meet the 1955 goal, which calls for about 50 percent more than the 1951 supply of potash.

Recommendations were made to the defense agencies on applications for controlled materials allotments and permission to commence construction of new facilities for the production and processing of fertilizer materials and in support of applications for NPA priorities assistance in the procurement of needed equipment. Recommendations also were made on applications for accelerated tax amortization, including 25 nitrogen expansion projects. Spot assistance also was given to farmers and bulk distributors in the procurement of anhydrous ammonia storage tanks.

Assistance has been rendered in obtaining sulfuric acid for production of superphosphate and ammonium sulfate fertilizers, for delinting cottonseed, for processing fats and oils, and refining sugar.

### **Pesticides**

Production of most pesticides, particularly synthetic organic compounds, was maintained at a high rate and growers were in a better position to select the combination of materials preferred for each application than for several years. Stocks of pesticides generally have accumulated to the extent that the suspension of steel production and consequent loss of certain basic raw materials derived from coke-oven operations has had no appreciable adverse effect on pesticidal supplies during the 1952 crop season.

A number of highly essential pesticides, particularly lead arsenate, liquid-grain fumigants, toxaphene, sodium chlorate, copper fungicides, and cryolite, reported short last year, and chlorine and benzene

for the manufacture of synthetic organic pesticides, were given attention. Supplies of these have been ample during most of this year.

Allotment of sulfur for pesticidal usage was adequate but several acute spot shortages of special forms of sulfur pesticides, particularly liquid lime-sulfur, occurred in widely separated areas. An arrangement was made with NPA for diversion of crude sulfur to meet these needs.

A second annual pesticide survey, similar to the one made in 1951, was conducted through State and Insular PMA committees to develop basic estimates of quantities of pesticides used and required for agricultural production. In contrast to the 1951 survey, which included only 20 categories of pesticides, the 1952 study covered 26 chemicals used primarily as insecticides, 10 chemicals used principally as fungicides, 16 chemicals used as weed killers, defoliants, and plant hormones, and 2 chemicals used as vermifuges for livestock.

The study indicated that over-all requirements for major pesticides for the 1952 crop year would be about 9 percent higher than in 1951. Estimated requirements for long-established pesticides, such as calcium arsenate and lead arsenate, remained comparatively stable, whereas requirements for newer crop protectors, such as benzene hexachloride, DDT, toxaphene, synthetic fungicides, and selective weed killers, increased about 25 percent. Requirements were estimated to be generally lower for the copper fungicides and for sulfur, thus indicating that considerable progress has been made in shifting to synthetic substitutes for these materials.

### **Defense Loans and Accelerated Amortization for Tax Purposes**

Section 302 of the Defense Production Act of 1950, as amended, authorizes among other things direct Government loans for expansion of capacity, development of technological processes, or the production of materials essential to national defense. These loans are made only if the funds requested are not otherwise available on reasonable terms. The Department of Agriculture has authority to certify as to the necessity of loans with respect to food (including all plant fibers except abacá), and to make recommendations to DPA with respect to loans for fertilizer and farm equipment. The Reconstruction Finance Corporation, which has responsibility for determining the amount, terms, and conditions of the loans, makes the loans as fiscal agent.

PMA certifies Section 302 loans for the Department of Agriculture with respect to food and food facilities only if it finds that the materials to be produced or the services to be performed are or will be essential to national defense; if there is or will be a shortage of facilities for the production of such materials or the performance of such services; and if the project is feasible to the extent that feasibility can be evaluated without making and judgment regarding the financial aspects of the proposed facility expansion or operations of the applicant.

During the fiscal year 1952, 34 applications for section 302 loans were received by PMA for consideration under its responsibility for certification. Actions taken on these applications, plus 8 pending at the beginning of the period, are summarized as follows: 2 applications totaling \$2,525,000 were certified; 23 applications totaling \$10,236,934 were denied certification; 11 applications totaling \$17,353,503 were transferred or withdrawn; and 6 applications totaling



\$884,316 were pending on June 30, 1952. In addition, PMA considered and made recommendations on 9 applications totaling \$4,200,778 which were received from other delegate agencies having primary responsibility.

Section 124A of the Internal Revenue Code provides for the depreciation for tax purposes, over a 5-year period, of facilities which are determined to be necessary in the interest of national defense. The Administrator of DPA has been made the certifying authority, and has authorized the Department to make recommendations to DPA for issuance of necessity certificates with respect to food and food facilities and the domestic distribution of farm equipment and fertilizer.

During the fiscal year 1952, 249 applications for necessity certificates were received from DPA for reports and recommendations. Actions taken on these applications plus 122 applications pending at the beginning of the period are summarized as follows: 78 applications totaling \$21,996,817 were recommended for approval; 211 applications totaling \$72,332,423 were recommended for denial; 49 applications totaling \$16,111,945 were transferred or withdrawn; and 33 applications totaling \$12,150,239 were pending on June 30, 1952. In addition, consideration was given to 107 applications totaling \$19,315,953 covering public storage facilities received from the Defense Transport Administration for reports and recommendations. Of these, PMA recommended approval on 31 applications totaling \$5,244,215 and recommended denial on 76 applications totaling \$14,071,738.

### **Barter, Stockpile, and Export**

Under Public Law 75, Eighty-first Congress, PMA exchanged wheat, sorghum grain, and corn, valued at \$43,243,703, for strategic and critical materials for the national stockpile.

PMA provided representation for USDA on the Department of Commerce Advisory Committee on Export Policy and its Operating Committee and R-Procedures Subcommittee as well as numerous interagency working groups assigned special tasks in connection with export controls.

During the fiscal year, more than 275 program determinations were issued covering export control actions recommended by the Department of Commerce Interdepartmental Committees, on a wide range of commodities, including items of special interest to agriculture, such as fertilizer, insecticides, irrigation pipe, and irrigation systems.

### **AGRICULTURAL MANPOWER**

Availability of qualified manpower is an increasingly important factor in the attainment of required agricultural production. The long time decrease in the agricultural population has been accentuated by the Defense Mobilization program. Annual average farm employment—family and hired—has declined by more than half a million persons from 1950 to 1952—a decrease to about 9.8 million workers.

Although agriculture has made great strides in increasing manpower productivity, an adequate work force consistent with the stage of development in farm technology must be maintained if required production levels are to be attained. Modern farm technology requires

considerable amounts of management ability and year-round operating skill for efficient operations. Production depends on these workers, supplemented by seasonal help. Obviously, any farm producing substantially for market must maintain at least one regular worker with the management skill and know-how to operate efficiently. About 80 percent of farm employment represents farm operators and their families. Census data for April 1950 indicated an average of only 1.3 males 15 to 64 years of age per farm in the United States. That shortages of seasonal help were also a considerable problem is attested to by the fact that during 1951, more than 200,000 foreign workers were utilized in agriculture to supplement domestic supplies.

Although direct action programs on these problems lie largely outside of PMA, food and fiber production responsibilities necessitate continuing attention to and cooperation with the manpower programs of other agencies. The manpower factor must be considered in the development and implementation of production programs. Under assigned responsibilities, PMA maintains close liaison and working relationships with agencies such as the Labor Department, the Selective Service System, the Defense Department, and the Commerce Department whose activities affect the manpower available for farms and supporting activities such as the processing and agricultural supply industries. It develops materials and presents claims in behalf of the manpower needs of agricultural activities and advises with these agencies on programs for recruitment and retention of needed workers.

During the year refinements and improvements were made in the working relationships with the other Government agencies. Major stress was placed on the basic importance of agriculture in the defense effort, the necessity for maintaining an adequate agricultural work force, the importance of full and effective utilization of available manpower, and the need for improving programs to recruit regular workers for farms.

Production information is assembled and furnished to the manpower agencies for use in program planning and in the conduct of activities such as farm labor recruitment activities. Similarly, pertinent manpower supply and program information is obtained from a number of sources for use in the development and implementation of production goals programs.

Agriculture, agricultural services, and food processing were continued on the list of essential activities of the Department of Commerce. Also farm operators and assistants and other important agricultural occupations were continued on the critical occupations list of the Department of Labor. These lists serve as a guide to the Selective Service System and the Department of Defense in giving consideration to civilian activities in their manpower procurement programs.

During 1952, further recognition of essentiality of agriculture and of the agricultural manpower problem was gained through the issuance of Defense Manpower Policy No. 6 by the Office of Defense Mobilization. This policy emphasizes the importance of maintaining an adequate farm work force of skilled and experienced farm workers, the recruitment of workers to meet year-round and seasonal manpower needs, and the training and efficient utilization of the agricultural work force.

Aid was given in the development of recruitment plans for 1952. PMA assisted the U. S. Employment Service in the preparation of the

1952 Farm Labor Recruitment Kit developed for use by State and local employment service offices. It also participated in regional preseason farm placement meetings conducted by the Employment Service at which data on farm production needs were presented. Guidance and assistance were provided to PMA field personnel in carrying out departmental responsibilities under the cooperative program developed between the Agricultural Mobilization Committees and the employment services. Employers were urged to utilize the facilities of the State employment services in obtaining needed workers, to make full use of local sources of labor, and to encourage improvements in housing, working, and living conditions to the extent practicable as an aid in obtaining and retaining workers. Field personnel also assisted in community efforts to mobilize local people for farm work.

Reports from field offices and farmers indicated that the manpower procurement activities of the Armed Forces and the Selective Service were important factors affecting the supply of year-round workers. The relatively earlier occupational maturity of farm youth and the small number of male workers per farm unit regularly employed are among the reasons that the Armed Forces build-up probably had a more direct occupational impact on agriculture than on most other essential production activities.

Closer working relationships were developed with the Selective Service System. Revised Selective Service instructions to local boards (Local Board Memorandum No. 13) stressed the importance of full consideration to the need for maintaining an adequate farm work force on farms and called for the maintenance of close cooperative working relationships between the local boards and the County Agricultural Mobilization Committees. Under the Selective Service criteria, occupational deferment may be granted to farm workers in individual cases when registrants are producing substantial quantities of agricultural commodities for market and when they cannot be replaced. Under the regulations, the volume of farm production attributable to a farm registrant is evaluated in terms of the average annual production per farm worker in the area.

Increased emphasis was placed on obtaining development within the States of more objective methods for measuring the production contribution of the registrants and for utilizing the most reliable information obtainable on the availability of replacements. Under a three-way arrangement with the Selective Service, the Agricultural Mobilization Committees provide production information to the local boards and the local employment offices provide information on availability of replacements. Issuance of Defense Manpower Policy No. 6 further stimulated closer cooperative relationships between the respective agencies. Also important have been actions to acquaint agricultural employers and registrants regarding procedural steps, rights, and responsibilities.

Other actions also relate to the problem of supplies of regular farm workers. The Department of Defense has directed its recruiters to refrain from actively soliciting enlistments of registrants whom they know have been placed in deferred categories in the national health, safety, or interest. The United States Employment Service is undertaking to conduct recruitment for industry in areas of substantial agricultural production only on a selective basis giving due regard to manpower requirements in essential agricultural activities.



Many of the current manpower problems are similar to those in World War II, but the present defense programs are attuned to long-range conditions rather than a "duration" concept. Under any system of rotation of men to and from the Armed Forces, manpower difficulties continue to arise in individual cases on individual farms. The extent to which men will return to agriculture after they have completed their tour of service with the Armed Forces is an important consideration as these men constitute one of the biggest potential sources of experienced farm workers. There are probably greater attractions today for nonfarm employment than prevailed at the end of World War II. Experience immediately following World War II indicated about 1 out of 4 discharged servicemen did not return to farm work. PMA is cooperating with the United States Employment Service in the development of improved job counseling and employment assistance for veterans which will emphasize opportunities in agriculture. This work is a part of the broad counseling program for veterans which includes activities of the Veterans Administration and the Defense Department.

Production information is provided through the Agricultural Mobilization Committees on cases involving furlough or discharge from the Armed Forces on the basis of the importance of a serviceman's civilian activity to the national health, safety, or interest. On request, this information is furnished to servicemen or their employers, the Department of Defense, and Selective Service. In this connection, county committees provide reports to Selective Service.

A program of technical assistance to the State and County Agricultural Mobilization and PMA Committees has been carried out during the year. The emphasis has been on cooperative development of needed actions within the States by the several agencies concerned. The field assistance program has aided materially in providing impetus and an aggressive approach to the problems.

Manpower activities of PMA are also closely coordinated with activities of the other bureaus and agencies of the Department. Close working relationships are maintained with the Bureau of Agricultural Economics in its development of statistical data on manpower requirements, employment, wage rates, and similar information, and the Extension Service in its manpower utilization and training programs.

Continuing action will be taken, through Agricultural Mobilization Committee channels, to keep abreast of the current farm manpower situation in the States and counties. Manpower needs on dairy and livestock farms have presented one of the most difficult problems. Some attention has been given to the possibility of recruiting farm workers from foreign sources such as possibly the Netherlands and other European countries. Attention has been given to fuller utilization in agricultural production and processing activities of the physically handicapped. PMA has also cooperated in the Department's farm safety programs as a means of conserving farm manpower.

Through the combined efforts of the farmers and the agencies concerned, the high level of production in 1952 was attained without major crop loss due to manpower shortages. The future effect on production of the diminishing number of skilled farm workers is, however, more difficult of immediate appraisal or solution. Full effects

on production patterns or on most effective utilization of land and other production resources are not immediately reflected. On some farms the male work force is reduced to a point that managerial ability is threatened. It is axiomatic that farmers must work out their own solutions, but it is evident that they will need assistance from governmental programs and agencies—Federal, State, and local—if their efforts are to be successful.

The continuation of Armed Forces' needs and of current conditions of full employment requires continuing efforts to offset the present loss trend. With a concerted effort in the future to improve on-farm manpower utilization, strengthen recruitment programs for agriculture, provide necessary occupational deferment consideration, and assist farm veterans to return to agriculture, it should be possible to cope with this problem. Involved, however, are a number of factors affecting both recruitment and retention of the farm work force. The greater attractiveness of nonfarm employment hinges on differentials in direct wages, employment and living conditions, and other indirect benefits. Agricultural working conditions and remuneration must be made as attractive as possible to permit agriculture to compete for both family workers and hired labor. Progress along this line, however, has a direct relationship to the incomes farmers receive from their products.

### LEGAL MINIMUM PRICES

PMA continued to carry out the responsibility for the development of "legal minimum prices" for agricultural commodities initially assigned to it by the Secretary of Agriculture in September 1950. These legal minimum prices are the levels below which ceiling prices on agricultural commodities cannot be established. The Defense Production Act of 1950, as amended, makes the Secretary of Agriculture responsible for their determination. The prices were developed in cooperation with other Department agencies, including the Bureau of Agricultural Economics and the Office of the Solicitor.

Amendments to the Defense Production Act in 1951 established an additional standard for determining legal minimum prices and, as a result, PMA, in September 1951, reviewed all average legal minimum prices announced on January 26, 1951, to determine the extent of adjustments needed. This additional standard provided that no ceiling may be established and maintained for any agricultural commodity below 90 percent of the price received (by grade) by producers on May 19, 1951, as determined by the Secretary of Agriculture. Prior to the amendment, the Defense Production Act contained two general standards which, in effect, required the legal minimum to be the higher of (1) the most recent parity price, or (2) the highest price received by producers during the month preceding the invasion of South Korea (May 24–June 24, 1950). These general standards were in addition to the special provisions relating to certain tobaccos and fluid milk.

This additional standard affected the legal minimum levels for only 15 of the 165 agricultural commodities for which legal minimums previously had been determined. The 15 commodities for which new minimums were established were cotton, wool, cottonseed, limes, beef cattle, lambs, sheep, veal calves, cantaloups, watermelons, crude pine

gum, American Egyptian cotton, gooseberries, green peas for fresh market, and asparagus for processing.

The Department continued to furnish the Office of Price Stabilization with adjustments in average legal minimum prices, where appropriate, for grade, season, and location, as required by the act. During the course of the year these adjustments were furnished for a number of new commodities and, in some instances, previous determinations were revised, mainly on the basis of more complete information. These adjustments furnish the Office of Price Stabilization with valuable information for use in establishing ceiling prices at different locations, for different qualities of the same commodity, or for different seasons. Although OPS may not establish prices at levels lower than these legal minimums, it may establish ceilings at levels above them.

At the close of the fiscal year, prices of only nine agricultural commodities were at levels equal to or above their legal minimums.

### FOOD DISTRIBUTION PROGRAMS

High lights of PMA's food distribution programs included the record participation of children in the national school lunch program; continued growth of and interest in the plentiful foods program—designed to increase food sales in regular trade channels through cooperative Government-industry merchandising activities; the further centralization by States of their responsibility for intrastate handling and delivery of direct distribution commodities; and the development, in cooperation with the Federal Civil Defense Administration, of basic policies and plans for the distribution of food supplies under civil defense emergency conditions.

#### Civilian Food Program

PMA continued its responsibility, authorized under the Defense Production Act, for insuring against disruptions in distribution of civilian food supplies during the mobilization period and for planning necessary actions in the event of emergencies.

As part of a continuous review of the food needs of all groups that depend in whole or in part on United States food supplies, estimates were prepared covering civilian requirements for 140 food items for the fiscal years 1953 and 1954. In addition, long-range estimates of civilian food needs were reviewed for the period 1957-58. In estimating future requirements, consideration was given to historical consumption patterns, inventories necessary in distributive channels, market demand, and nutritional needs, the last-named including the needs of "vulnerable" groups, such as children and workers in heavy industries. These estimates of over-all food needs were also used in establishing production goals.

Through liaison with the Defense Production Administration, PMA was apprised of the designations of critical defense areas where food-shortage problems might arise because of rapidly expanding population. The designation of such areas was relayed to field personnel for review and, if necessary, an appraisal, in cooperation with local distributors and community officials, of the adequacy of local food



distribution facilities. In the fiscal year 1952, 170 such areas were designated as critical by DPA.

PMA also cooperated with the Federal Civil Defense Administration in a program to develop plans for insuring the distribution of civilian food supplies during a civil defense emergency. A formal policy statement and a blueprint for the necessary action by both USDA and FCDA was agreed to by the two agencies and issued to State and local civil defense organizations and to State Agricultural Mobilization Committees.

Emergency food distribution was necessary following the flood disaster in the Midwest States and tornado damage in the Southern States. Although major reliance was placed upon food supplies in normal channels of trade, Government stocks of foodstuffs were distributed in disaster areas through the cooperation of PMA personnel, local and State organizations, and the American Red Cross.

As part of PMA's program of advance planning, work also has been undertaken, in cooperation with the Bureau of Human Nutrition and Home Economics, to develop basic nutritional guides for use in the determination of civilian food requirements should an emergency arise requiring a reduction below current levels in the food supply available for civilians.

### **National School Lunch Program**

Participation in the national school lunch program totaled 9,320,000 children, and established a new record—8 percent above peak participation in 1951. "Program" schools served 1,500,000,000 meals, approximately 100,000,000 more than in 1951. Seventy percent of the meals served met the standard for the type A lunch—a complete meal with milk. Out of every 9 meals served, 1 was served free or at reduced cost to children unable to pay the full price of the lunch.

Participating schools used 2,000,000,000 pounds of food, of which more than 90 percent was purchased by the schools from local producers, wholesalers, and retailers. The value of these local food purchases totaled \$250,000,000 in 1952, as compared with \$214,000,000 in 1951.

Congress appropriated \$83,367,491 for program operations, which represented a slight reduction from the 1951 appropriation in the amount provided for administrative expenses. States and Territories were apportioned \$66,320,000 in the form of cash payments, to be used by schools to purchase food from local suppliers. A total of \$15,590,000 was available to PMA for the direct purchase of commodities under authority of section 6 of the National School Lunch Act. The remaining amount \$1,457,491, was allotted for administrative expenses—this being well under the 3.5 percent authorized in the act. As in other recent years, no part of the appropriation was available for nonfood (equipment) assistance.

Financial contributions to the program from sources within the States continued to increase and the preliminary estimate totaled \$333,000,000 for 1952. Federal cash assistance funds, which are required to be matched 1.5 to 1 from sources within the State, actually were matched almost 5 to 1.

The national school lunch program continued to be the most important outlet for commodities acquired by the Department under

surplus-removal and price-support programs. Approximately 100,000,000 pounds of these commodities were used by schools, in addition to the 98,000,000 pounds of commodities purchased specifically for school lunch use under section 6 of the National School Lunch Act.

Total program expenditures for food (including the value of donated commodities), labor, and equipment amounted to approximately \$430,000,000, compared with \$404,000,000 in 1951.

The school lunch program was administered by PMA in 1,845 non-profit private schools that served lunches to 288,000 children in 27 States and 1 Territory, where State agencies are prohibited by law from disbursing Federal funds to private schools.

State educational agencies expanded their workshop programs, designed to improve food management practices of local school lunch managers and cooks. PMA placed special emphasis on efforts to secure more effective distribution of available donated foods and to encourage the use of low-cost menus featuring such foods.

Major progress was made in obtaining increased State participation in the formulation and undertaking of plans to improve the program. This was accomplished through the use of advisory committees, composed of State school lunch supervisors in each of the five PMA areas. Two groups of area advisory committees are now assisting PMA on school lunch matters—one is participating in the development of a research program which will better meet the needs of participating schools, the other is assisting in the review of present nutritional requirements with a view toward developing an improved meal pattern for the type A lunch.

At the close of the fiscal year, work was being completed on a comprehensive progress report—the first such report to be issued since the passage of the National School Lunch Act in 1946. Through a series of charts, the report depicts the growth of the program and points out the problems of program financing because of rising operating costs and increasing participation.

### **Plentiful Foods Program**

PMA increased its work in connection with activities designed to assist producers in moving plentiful foods through normal trade channels. Under this program, food trades groups are encouraged to feature foods in plentiful supply in their advertising and merchandising programs and to take full advantage of the newspaper, radio, and television publicity given to such foods.

Through the issuance of a Monthly List of Plentiful Foods, PMA regularly informs food distributors and public information media concerning foods expected to be in abundant supply and in need of merchandising assistance. An average of 17 foods appeared on each monthly list as compared with an average of 13 in 1951. The monthly list, which is issued on a request basis, was distributed to more than 22,000 recipients, including national and State food trade associations, individual food distributors, associations, members of allied industries, and public information media.

Most of PMA's increased program activity was undertaken in connection with special food drives. During these drives, food distributors in major markets concentrate their merchandising effort on a

single item so as to maximize sales during the period of peak supply. Thirty-four special food drives were undertaken, compared with 22 in the preceding year. These special food drives were undertaken for such varied items as dairy products, fresh beets, lettuce, pork, and eggs. Results obtained indicated the value of these drives in increasing the movement of a plentiful food through normal trade channels, thereby insuring the greatest possible benefits to producers, distributors, and consumers.

A special drive on lettuce was undertaken by PMA in February 1952, following a request for marketing assistance from the Western (Lettuce) Growers Association. Food distributors in major markets gave special merchandising attention to lettuce and this helped significantly to stimulate retail sales. February marketings, as reported by the Federal-State market news service for 100 major cities, were 13 percent higher than in the previous February and producer prices were reported at about the February 1951 level.

A special drive undertaken on domestic dates resulted in substantial increases in sales. Many of the retail stores cooperating in the drive reported sales of more than double, or triple, those of the preceding year. One large department store, which provided a major feature on dates in its in-store displays, reported that its sales in 1 week were equal to its sales during the previous 3 years.

Increased attention also was given to the development of long-range merchandising programs for nonperishable items that are in plentiful supply throughout the year. This planning is being developed through encouraging closer working relationships and more advanced programing among producers, packers, distributors, retailers, and public-information groups. The first work on the development of a program of this type has been started in connection with a special drive on honey—scheduled for October 1952. Honey producers, distributors, and retailers are being encouraged to participate and contribute to this merchandising program. Related food interests, such as biscuit- and flour-mix companies, doughnut makers, and confectioners, have reported plans to feature honey in their October advertising programs.

The program of "Weekly Best Buys," which was undertaken on an experimental basis in late 1951, was discontinued when it was found that the plentiful-foods program was more effective.

### **Food Preservation**

PMA food-preservation specialists assisted State agencies with their school, community, and institutional food-preservation programs. Considerable work was done in providing technical assistance in the adaptation of community canning facilities to processing in glass jars as well as in tin. The inclusion of facilities for canning in glass jars was encouraged as a hedge against possible shortages of tin and as a means of increasing food-preservation activities among families and schools having glass jars that could be reused.

To provide approved operating instructions for glass jars, PMA worked with the Bureau of Human Nutrition and Home Economics, the University of Georgia, the University of Massachusetts, the National Canners Association, and manufacturers of glass jars and can-



ning equipment in preparing Agriculture Handbook No. 44, Canning in Glass Jars in Community Canning Centers.

Fact sheets that outlined methods of handling, storing, and preparing shell eggs and pork products purchased in the spring of 1952 under a section 32 program were prepared for use in the fall of 1952 when these commodities will be distributed to schools and institutions. Instructions for boning and cutting the smoked hams and shoulder picnics were prepared and distributed to school lunch cooks and managers attending 13 demonstrations sponsored by State agencies. Continued use of this material will be made at similar demonstrations throughout the summer.

State agencies were also assisted in conducting 65 workshops on canning and freezing for key personnel employed in community and institutional canneries and in school and institutional kitchens. Personnel from 1,251 establishments participated in these workshops. In addition, technical services were provided to 143 plants to improve canning techniques, and floor plans for constructing or modifying 83 plants were prepared.

Assistance was given to State distributing agencies in repackaging bulk lots of dried whole eggs and milk which had been distributed under the donation program authorized by section 416 of the Agricultural Act of 1949. Assistance also was provided in connection with the processing for later use by schools and institutions of the apples made available under the section 32 purchase program.

### Direct Distribution

Direct distribution continued to provide constructive outlets for food commodities acquired by the Department of Agriculture under its surplus-removal and price-support programs and to distribute commodities purchased specifically for the school lunch program. The quantity of food available for direct distribution in 1952 was considerably smaller than that in 1951, reflecting the high-level demand for farm products in regular market channels.

A total of 240,600,000 pounds of commodities was distributed to eligible recipients. This volume is substantially below the 831,000,000 pounds distributed in 1951, a decline largely accounted for by the reduced volume distributed under Section 416 of the Agricultural Act of 1949. In 1951, when supplies of 5 price-support commodities were available for donation, 570,000,000 pounds of section 416 foods were distributed to domestic recipients and to United States private welfare agencies for donation to needy groups overseas. In 1952, only dried eggs were available for distribution, and the quantity available for overseas distribution was limited. As a result, only 9,500,000 pounds of section 416 commodities were distributed in 1952.

The distribution of commodities made available under section 32 surplus removal programs totaled 133,100,000 pounds in 1952. Commodities making up this total were: Fresh apples; concentrated orange juice; nonfat dry milk solids; extracted honey; and pecan meats. The number of recipients participating in this distribution increased from 10,942,000 in 1951 to 11,238,000 in 1952.

A total of \$15,590,000 was available to purchase 98,000,000 pounds of selected foods for use in the national school lunch program, under

the authority of section 6 of the National School Lunch Act. The commodities purchased were: Dry beans; American process cheese; canned and dried fruit; canned tomatoes and tomato paste and puree; and other canned vegetables.

Direct distribution operates under a plan whereby agencies within each State order carload shipments of commodities and, under an agreement with the Department, are responsible for the proper distribution and delivery of such foods to eligible recipients served by them. These agencies are accountable to PMA for all distribution within their area and maintain or arrange for such warehousing and trucking facilities as may be necessary. PMA continued its efforts directed toward improving the operational practices of these distributing agencies, through its program of administrative analyses and fiscal audits. Proper warehousing and food-handling techniques were stressed by PMA so as to reduce in-transit losses and unnecessary waste.

Continued progress also was made in efforts to consolidate intrastate distribution responsibilities into a fewer number of agencies and into agencies having State-wide responsibilities. It now appears that PMA will have agreements with less than 75 agencies in 1953, compared with more than 100 in 1952, and more than 1,000 at the end of World War II. Centralization of such State responsibilities results in improved coverage and operational practices and reduces the time and travel requirements of PMA personnel who deal with such agencies.

## STORAGE AND TRANSPORTATION OF AGRICULTURAL COMMODITIES

The capacity of Government-owned storage facilities was maintained at a high level during the year, and the construction of storage space on farms was given impetus under the Commodity Credit Corporation's farm-storage-facility loan program. Grain-storage capacity licensed under the United States Warehouse Act reached an all-time peak of 460,000,000 bushels. Activity aimed at maintaining reasonable and equitable transportation rates and services of shippers of agricultural products was continued. PMA, as in the preceding year, worked cooperatively with the Defense Transport Administration to obtain maximum utilization of port facilities and equipment. (A discussion of grain conversion, and the establishment of new standards for approval, bonding, and inspection of warehouses starts on p. 8.)

### Storage Expansion

Construction by farmers of on-farm storage structures having an aggregate capacity of 36,000,000 bushels was completed under provisions of the CCC's farm-storage-facility loan program. New storage added during the year brought the total capacity of storage structures constructed under the program since its inception in June 1949 to 112,000,000 bushels.

Grain-storage space made available through CCC's storage guarantee program totaled about 76,000,000 bushels at the end of the year, as compared with 93,000,000 bushels a year earlier. The program

guarantees specified payments with respect to the use of 67½ percent of approved storage capacity for a period of 3 years in the case of completely new facilities and for 2 years in the case of new additions to existing facilities. Further commitments by CCC under the program were discontinued as of February 28, 1951, but operations under outstanding agreements were continued. On June 30, 1952, 93 out of a total of 426 agreements expired because the agreement period had been completed.

Storage capacity owned by the Commodity Credit Corporation at the end of the fiscal year totaled approximately 545,000,000 bushels.

### **Storage Capacity Survey**

A survey of off-farm, commercial-type grain-storage capacity in the United States, initiated by PMA in April 1951, was completed during the first half of the fiscal year. The survey showed that commercial-type storage capacity totaled approximately 2,176,000,000 bushels. The information was obtained through PMA Commodity Offices and PMA State and county committees.

### **Conditioning and Maintenance**

More than half of the approximately 305,000,000 bushels of grain stored in CCC-owned storage structures was turned and cleaned during the year. In cooperation with State agricultural colleges, tests were conducted to determine the minimum rate of air flow needed to aerate grain and prevent surface caking. Experimental work was continued with the Bureau of Entomology and Plant Quarantine in developing new fumigant formulas and devising safe methods of application. Considerable work was done in the maintenance and repair of CCC-owned storage structures. New calking and coating materials were tested and evaluated to determine the most economical and durable scaling material to be used in waterproofing storage structures. Additional grain conditioning equipment, such as exhaust fans, ventilating tunnels, grain turning and handling equipment, fumigating equipment, and cleaning screens, was procured.

### **Administration of the United States Warehouse Act**

Operations under the United States Warehouse Act have the prime objective of assuring farmers, bankers, dealers, and other groups that the quantity and quality of commodities stored by warehousemen licensed under the act are as stated on warehouse receipts issued by such warehousemen. The act does not make licensing mandatory; the licensing is done following voluntary application by a warehouseman, and after a thorough investigation of the facility and of the financial status and ability and honesty of the warehouseman and key personnel. After licenses are issued to the warehouseman, and to persons qualified to sample, inspect, weigh, and grade the products handled by the warehouseman, PMA supervises the licensees' operations to see that the requirements of the act are met.

Table 7 shows licensed storage capacity at the end of the fiscal years 1951 and 1952.



TABLE 7.—*Storage capacity licensed under the United States Warehouse Act, by commodities, fiscal years, 1951 and 1952*

Commodity	Unit	June 30, 1951	June 30, 1952
Cotton	Bale	11, 011, 056	11, 017, 436
Wool	Pound	47, 403, 500	43, 253, 800
Tobacco	do	250, 000	250, 000
Fruit, cold packed	do	6, 000, 000	6, 000, 000
Cherries in brine	do	8, 846, 000	8, 846, 000
Grain	Bushel	449, 382, 822	459, 706, 100
Nuts	Ton	55, 479	50, 070
Cottonseed	do	66, 000	21, 000
Broomcorn	Bale	14, 175	14, 850
Dry beans	Hundredweight	3, 647, 876	2, 269, 176
Seeds	do	201, 187	201, 187
Canned foods	Case	1, 805, 000	1, 825, 000
Sirup	Gallon	1, 588, 640	1, 673, 640

As of June 30, 1952, licenses under the United States Warehouse Act were held by 1,434 warehousemen storing various commodities. Of this total, the following number were issued to warehousemen storing: Grain, 880; cotton, 471; and miscellaneous, 83. During the year amendments were made to 165 licenses, 23 licenses were suspended, and 17 were reinstated.

Violations under the United States Warehouse Act and the regulations, both in number and seriousness, during the fiscal year 1952 were on about the same level as in the previous year. The irregularities uncovered ranged all the way from not taking proper care of grain while in storage to actual conversion of grain to the warehouseman's own use. The more serious offenses led to suspension of licenses plus, in some instances, referral to the Department of Justice for appropriate legal action.

Several steps were taken during the year to bring about increased compliance with regulations issued under the United States Warehouse Act.

Warehousemen, for the first time, were required to submit, under penalty of perjury, a complete list of storage obligations, receipted or not. Closer attention also was given to the matter of whether a warehouseman's stocks by grade were in line with his obligations by grade, receipted or not.

Close liaison was developed between United States Warehouse Act officials and PMA commodity office personnel. In some instances, Warehouse Act officials notified PMA Commodity Offices of unsatisfactory conditions. Before licenses are issued, or an inspection authorized, a check is made with PMA Commodity Offices and with compliance and investigation officials to determine whether any unsatisfactory relations had ever existed with the warehouseman.

Toward the close of the year, consideration was given to amending cotton and grain warehouse regulations under the Warehouse Act so as to bring them in line with Commodity Credit Corporation requirements as to net worth and bonds.

Consideration was also given to minor amendments to the cotton and grain warehouse regulations so as to require that a warehouseman

who has more than one facility within the same town must license all his facilities within that town or have an exception granted as provided in the regulations, also to increase inspection and license fees more than double those previously charged.

The Office of Price Stabilization froze all warehouse rates on January 25, 1951, under the Defense Production Act of 1950. Under the law, however, warehousemen whose rates are regulated by a public utilities commission are exempt. Warehousemen who did not fall under this exemption but who were licensed under the United States Warehouse Act sought relief from the OPS rate ceilings on the grounds that the Secretary of Agriculture had exclusive jurisdiction over such warehousemen and that it was his responsibility to see that warehousemen's rates were neither unreasonable nor exorbitant. OPS accepted this reasoning in principle and issued Ceiling Price Regulation 34, Supplementary Regulation 5, on October 10, 1951, which set as a ceiling for federally licensed warehouses, subject to OPS disapproval, those rates and charges determined by the Department of Agriculture not to be unreasonable or exorbitant. The Department later granted increases to a number of federally licensed warehousemen, none of which were denied by OPS.

### **Natural Cooler Facility**

On October 22, 1951, an agreement was entered into between the President of CCC and the Secretary of the Army for use of the Natural Cooler Facility, at Atchison, Kans., by the Department of the Army. The agreement provides, among other things, for use by the Department of the Army of the facility and all equipment therein until December 31, 1953.

### **Cold Storage Report**

Requests for the Cold Storage Report totaled approximately 48,000 during the fiscal year 1952. In addition to distribution of the report itself, information contained in the report with respect to storage holdings of fresh and frozen fruits and vegetables, dairy products, poultry, eggs, and meats was made available through newspapers, the trade press, and radio.

### **Transportation Rates and Services**

The Secretary of Agriculture is authorized and directed to assist producers of agricultural products in obtaining and maintaining reasonable and equitable transportation rates, rules, and charges. This authority and this direction are found in the Agricultural Adjustment Act of 1938 and the Agricultural Marketing Act of 1946.

In carrying on responsibilities delegated to it by the Secretary, PMA participated in 82 transportation actions during the fiscal year 1952. Of these actions 14 were of a general nature (rail, 6; motor carrier, 6; and water carrier, 2), whereas the remainder involved the following commodities: Cotton and cottonseed products, 8; dairy and poultry products, 10; fruits and vegetables, 11; grain and grain products, 18; livestock and livestock products, 12; fertilizer and fertilizing materials, 5; and fish and fishery products, 4. Of these cases, 28 were concluded favorably to agriculture, 10 unfavorably, and 44 were still pending

at the close of the year. Because of the nature of some cases, and the necessarily involved procedures surrounding all cases, it is not unusual for important decisions to be delayed for 2 or more years.

Numerous activities were carried on in connection with the transportation of commodities owned by the Department and the Commodity Credit Corporation. Among these activities was the approval by the railroads of special rules relating to the registration of freight bills for transit privileges and payment of freight charges on CCC-owned grain.

### **Transportation of Government-Owned Commodities**

As in other years, PMA arranged for the transportation of a wide variety of farm commodities for domestic or foreign program use.

Domestic shipments, consisting largely of commodities acquired under price-support, surplus removal, or school lunch programs, moved to or from storage, to schools, and to charitable institutions. Foreign shipments moved, under programs administered by the Department of Agriculture, the Mutual Security Agency, the Department of Defense, the Armed Forces, and various international relief organizations, to destinations all over the world.

In collaboration with the General Services Administration and the Department of Defense, PMA arranged for the importation of Egyptian cotton for stockpiling. Also, PMA was responsible for the importation of strategic materials obtained through the barter of surplus farm commodities.

Acting as agent for the Mutual Security Agency and the Department of State, PMA made a total of 195 bookings of ocean shipping space—including chartered vessels and berth cargo—representing an expenditure of almost \$10,000,000 for ocean transportation. At the request of the Technical Cooperation Administration, four vessels were chartered for the movement of almost 35,000 long tons of sugar from Cuba to Iran. Ocean shipping-space bookings also were arranged for 48 shipments of processed commodities to Hawaii, Alaska, Puerto Rico, and the Virgin Islands under the school lunch and surplus removal programs.

Negotiation of charters for consecutive voyages and the obtaining of reduction in berth term rates resulted in estimated savings to the Government of \$112,000.

Air transportation was utilized in a few instances where speed was important, as in the case of small quantities of seeds and plants scheduled to be grown experimentally in Burma, Indochina, Thailand, Greece, Yugoslavia, and the Philippines. Air transportation, instead of slow ocean shipping, made it possible for the experiments to begin promptly.

### **Grain Port Handling Permits**

The purpose of Defense Transport Administration General Order No. 2, which became effective in March 1951, was to regulate movements to, and allocate cargoes between, port facilities for the storage and handling of bulk grains for export, thus obtaining maximum utilization of port elevators and railroad equipment. In this DTA order the Department was delegated authority to recommend port



grain handling permits for all governmental and commercial accounts.

During the 1952 fiscal year 3,593 permits were issued covering exportation of approximately 16,328,000 long tons of grains. In addition, 18 permits were issued covering the coastwise movement of approximately 73,000 long tons.

The permit system has resulted in an increased volume of grain being carried by port elevators, and a reduction in the number of grain cars being held at these port elevators.

### CROSS-COMMODITY MARKETING RESEARCH

Numerous research projects are carried on by PMA to find answers to marketing problems common to many commodities. This "cross-commodity" research work falls into the following broad categories:

- (1) Developing plans for and promoting the construction of modern marketing facilities for handling farm and food products in producing areas, concentration points, and terminal and secondary markets;
- (2) determining the best kind or kinds of equipment for handling products and the most effective methods of using such equipment;
- (3) improving transportation facilities and operations;
- (4) finding more efficient methods of wholesaling, packaging, and retailing; and
- (5) seeking improvements in the market news and grading services.

Practically all the cross-commodity research during the year was carried on in cooperation with other agencies and groups concerned with marketing, including State departments of agriculture and bureaus of markets, State agricultural colleges, municipalities, trade and farm organizations, transportation agencies, equipment manufacturers, and engineering firms. No work was conducted except in response to specific requests from such agencies and groups.

### Marketing Facilities Planned

PMA assisted 25 cities or areas and gave advice to several other localities in determining the kinds of marketing facilities needed for the efficient handling of food products or in bringing about the construction and operation of such facilities.

New wholesale produce markets in San Antonio, Tex., and Columbia, S. C., planned in previous years, were opened for business in the fall of 1951, and by the end of the year, markets under construction in Hartford and St. Louis were almost completed. Although these four markets cost about \$10,000,000 annual savings in distribution costs are expected to exceed \$2,000,000. In these four markets there will be facilities for handling foods at wholesale by farmers, dealers, and truckers. These facilities will consist of store buildings, farmers and truckers' sheds, railroad tracks, adequate parking spaces, and areas for expansion.

Improvements were made in the markets at Winston-Salem, N. C., and Benton Harbor, Mich., and construction of new facilities in Indianapolis and Boston has just begun. The completion of the facilities currently under construction will bring to 18 the total number of improved market facilities that have been built since this program of assistance began.

Studies have been made and plans developed for about 23 other localities where construction has not yet started. In a number of these places, substantial progress is being made toward the carrying out of plans recommended. In Nashville, Tenn., for instance, land has been purchased for the construction of the recommended facilities. In San Juan, P. R., more than \$4,000,000 has been made available for dredging the channel, for building bulkheads and docks, and for the preparation of the site recommended for central market facilities, which will include warehouses, wholesale stores, a meat-packing plant, grain elevator, oil-extracting facilities, feed-mixing plant, and a public retail market. In both Savannah and Houston, plans have progressed to the stage where it is expected that contracts for construction will be signed by the end of July 1952. The year ended with requests for assistance on hand from 24 other localities.

New market facility studies were conducted during the year in nine localities. It should be pointed out that all these studies were made on the basis of requests from the specific localities and with the active cooperation of the groups concerned. In every instance the object of the study was to develop facilities that will eliminate unnecessary handling operations, reduce the cost of performing the operations that are necessary, maintain the quality of the products being handled, and otherwise facilitate the movement of farm and food products. In localities where studies indicate that the construction of new facilities will not bring sufficient advantages to make the investment self-liquidating and produce savings in the cost of distribution, it is recommended that no facilities be built. When studies indicate that satisfactory results can be achieved by improving existing facilities at reasonable cost, such improvements are recommended rather than proposing that existing facilities be abandoned and new facilities created.

Although there has been more construction of marketing facilities during the last year than at any time since this program began, little or no difficulty was experienced in obtaining construction materials. Wholesale food marketing facilities consist mostly of one-story buildings and open sheds. Such structures can be built from any one of a variety of materials.

Several studies were undertaken to determine the principles, standards, and criteria that should be followed in developing the proper lay-out, design, size, location, method of financing, method of operating, and other factors essential to the success of various types of marketing facilities. One of these studies had to do with factors essential to the success of assembly markets for fruits and vegetables in producing areas. It was found that the daily volume of produce offered for sale is the most important factor in attracting buyers and in insuring the success of markets of this type. For average-value produce, the minimum daily volume required is roughly 1,800 packages, or about 3.6 equivalent carloads. For high-value products, such as strawberries, about 900 packages daily is the minimum. Another study developed criteria for use in determining whether or not a country elevator should be built in a particular area and what location, capacity, size, lay-out, construction, and method of operation would be most suitable. A third completed study provides suggestions for wholesale frozen food distributors to use in planning efficient facilities and performing order-assembly operations.

Other studies on which work was done during the year were designed to: (1) Determine the proper lay-out, design, and method of operating livestock auction markets; (2) develop the principles that should be used in planning the kinds of facilities and equipment needed to handle tobacco efficiently; (3) determine the kind of facilities and equipment that will most efficiently handle eggs in producing areas; and (4) find out what types of ownership and methods of financing wholesale produce markets are best for varying situations.

### Improved Handling Methods and Equipment

PMA is conducting a number of research projects to find ways of increasing the efficiency of materials-handling operations at various places in the marketing channel to reduce costs, conserve manpower, and decrease waste and spoilage. Information was brought together on: (1) The comparative efficiency of various types or combinations of types of materials-handling equipment and methods, and the most efficient types and methods; (2) improved methods and types of equipment for performing specific operations; (3) the proper amounts of equipment for enterprises of various sizes; and (4) the comparative space utilization in facilities when different types or combinations of types of equipment are used.

Materials-handling studies were carried on in four categories: (1) Stores and warehouses of wholesale fruit and vegetable distributors, (2) commercial apple-packing and storage houses, (3) public refrigerated warehouses, and (4) cotton warehouses. In two of these fields, work was being carried on by PMA personnel, whereas in the other two it was being conducted under contract. The work in wholesale produce houses can be illustrated by one study, completed during the year, which analyzed the cost of loading delivery trucks of service wholesalers by six methods currently used. The study showed that this operation could be done for as little as \$1.43 per ton with one method, whereas it cost \$2.27 with another.

Studies were conducted in 17 commercial apple-packing and storage houses in the State of Washington to determine the relative merits of different kinds of handling equipment and methods and to develop new equipment and methods. One phase of this study showed how some operators can reduce their cost of receiving apples by as much as 80 percent. The most costly method of receiving apples was found to be use of belt conveyors and clamp-type two-wheel hand trucks, whereas the lowest-cost method was use of pallets and industrial fork-lift trucks. This study also resulted in the development and testing of a portable mechanical lift for high-piling and breaking out high-piled boxes of apples, which reduced the cost of high-piling by more than half, and the cost of breaking out the boxes from the stacks by about 75 percent. Short interim reports on specific operations were released and a complete report was being prepared at the end of the year. In addition, a 28-minute movie was made which shows clearly the difference between efficient and inefficient methods and equipment.

A study was made to determine the relative costs of handling products into, within, and out of single- and multiple-story refrigerated warehouses, to determine the best methods of handling, and to find out the cost of stacking products to varying heights. The collec-



tion of data for this study was completed, and a report was being prepared at the end of the year.

A study of materials handling in cotton warehouses has as its objective determining the most efficient ways of handling cotton into, within, and out of warehouses, where much manual labor has been used in the past. A report on work in this field, entitled "Some Improved Methods for Receiving Bales of Cotton in Compresses and Warehouses" (AIB-80), was issued during the year. This report brought together and unified in a single publication discussion of a number of improved cotton-handling methods, including unloading railroad cars and motortrucks by industrial lift trucks; employment of temporary or "floating" blocks of bales between the various operations; use of a mobile beam scale for weighing flat bales, and powered equipment for transporting bales; "block sampling" of flat bales; and an improved method for integrating the weighing and sampling of compressed bales. The value of this study can be illustrated by pointing out that proper employment of clamp trucks for unloading motortrucks from ground level or railroad cars from platform level could reduce the man-hour requirements to about one-sixth of those required when hand trucks are used.

Another project will seek ways of reducing the amount of labor required in sorting for grade, through visual inspection, various types of agricultural commodities without sacrificing accuracy.

### **Improving Wholesaling and Retailing**

In a previous report it was pointed out that PMA had developed a new check-out counter, the use of which in retail food stores made possible an increase in the rate of the check-out operation by about 38 percent. Although no effort has been made to determine the full extent of the adoption of this counter, it is known that by the end of June 1952 more than 3,000 were in use. The experience gained with this counter has made it possible to develop further improvements and, as the year ended, a counter with these improvements was being constructed.

A study was completed which developed more efficient methods of receiving, price-marking, and stocking groceries on shelves of retail grocery stores, and a report issued, entitled "Some Improved Methods of Handling Groceries in Self-Service Retail Food Stores" (MRR-7). The improved methods and equipment resulted in increased productivity ranging from 67 to 87 percent in the stores where the study was conducted. The most productive method of receiving was by use of wheel-type gravity conveyors. Checking the order in and unit-pricing each case after the order had been stacked and segregated by commodity groups in the storeroom was more productive than former methods.

The most productive price-marking system analyzed was the stamping of prices on the items at the shelves by means of a self-inking price-marking set attached to the handle end of each four-wheel stocking truck. Cases to be stocked on the bottom shelf were removed from the truck to the floor, while those to be stocked on the middle and top shelves were price-marked and stocked directly from the truck. The highest production per man-hour for stocking the shelves was

obtained by using four-wheel hand trucks for carrying cases from the storeroom to the shelves and using a new leaf-type sliding shelf to support the merchandise during the shelving operation.

A study was undertaken to find the most efficient methods of handling meat in service meat departments and of prepackaging and handling in self-service departments. By the end of the year this study was almost completed, and five reports were being prepared on various phases of the work. Improved methods of handling have been developed, as well as improved materials and new equipment. Among the new types of equipment developed in the study were a device which can be attached to the power saw for removing bone dust from meat as it is cut, a meathook stabilizer for holding meat rigid on the rail in order to permit blocking in that position, and a simple device to remove the spinal cord. Before the end of the year meat departments in several retail stores were redesigned in accordance with the improvements developed in the study, and the over-all productivity of labor increased by more than 40 percent.

To assist retailers in reducing the cost of rewrapping prepackaged meats, poultry, and cheese, a study was completed and a report released on *Costs of and Reasons for Rewrapping Prepackaged Meats, Poultry, and Cheese (AIB-77)*. The average cost of rewrapping was found to be 2.7 cents per package. The principal causes of rewrapping were price changes, unattractive packaging, discoloration, and broken film. Some of the ways of reducing the amount of rewrapping necessary were found to be maintenance of a high rate of turn-over, using outside labels or changing the label by slitting the film, better use of refrigeration, reduction of the amount of light exposure, better trimming and wrapping, the use of trays for certain cuts, removal of sharp bones, and allowing free fluids to drain before packaging.

To obtain more efficient utilization of shelf space in retail stores, a study was conducted to compare the sales of 17 selected canned fruit and vegetable items from 2-, 3-, 4-, 5-, and 6-row displays. The results showed an average change in sales of about 10 percent for each row added or taken from an item display. The average sales and gross margin per unit of display space with a 2-row display was about 5 times as great as the sales or gross margin per added unit. The results of this experiment were applied to two supermarkets, with savings in shelf space of 36 and 43 percent and increases in average gross margin per shelf foot of 74 and 83 cents.

A study was started to determine the effect on store sales of special item displays, the relative returns per square foot of selling space of the special displays compared with shelf displays, the relative effectiveness of multiple-item displays, the effective life of the displays tested, and the carry-over effect of special displays on sales.

In cooperation with two national organizations of wholesalers, studies were made to determine ways in which wholesalers and retailers can cooperate to increase their combined efficiency and lower food distribution costs, and two reports were issued. One of the reports—*How Some Wholesale Grocers Build Better Retailers (MRR-12)*—describes methods which leading wholesalers are using in helping retailers sell more groceries at lower costs through use of informational and promotional aids, store engineering and store-management guidance, accounting assistance, retail training, financial aid, real-estate

advice, and insurance service. The other report—Methods of Handling and Delivering Orders Used by Some Leading Wholesale Grocers (MRR-13)—shows how some wholesalers are holding down the cost of taking and filling orders and making deliveries. The best ways that were found for holding down the cost of taking orders were by using preprinted order forms, increasing the size of orders, and eliminating calls for unprofitable orders.

Order assembly was made more efficient through proper stock arrangements and the use of the right kinds of equipment. Delivery costs were reduced by decreasing the number of deliveries, improved truck routing, making some use of common carriers, and reducing the time spent in truck unloading. In the course of this study a procedure was developed for more accurately measuring the performance of drivers which, when put to use, decreased the drivers' time by more than 10 percent. As the year closed, the retail customers of the wholesalers chosen for the case studies were being surveyed to determine which services of wholesalers are of greatest value to them, what suggestions they have for improving wholesale-retailer cooperation, and whether or not they would accept certain proposals for reducing operating costs.

Research has been started to develop better techniques for training retail food store employees and to determine the relative effectiveness of improved training methods. This research is being conducted in cooperation with two groups of supermarkets. In one of these organizations present training practices were determined and their effectiveness measured, modifications of the existing practices were made, some of the employees were trained by the use of old methods and others by the new, and the training results measured. Preliminary analysis of the data indicates that significant gains can be achieved in productivity, accuracy, and employee satisfaction through the improved training techniques tested. Research with the second group of supermarkets has been started, but the collection of data has not been completed.

### **Transportation Facilities, Equipment, and Loading Methods**

Results of a study of the records of movement of 36,000 carloads of agricultural freight, and a formula developed during this study for measuring the relationship between standing time and moving time of loaded cars, was transmitted to the presidents of approximately one-half of the Class I railroads in the country for their review and adaptation to their operations. The officials of many of these railroads have displayed considerable interest in the study, and several are taking steps to evaluate terminal delays on their lines. For example, the problem of terminal delays is actively being studied by the American Railway Engineering Association, an affiliate of the Association of American Railroads, which has set up a committee to make a continuous study and has requested PMA participation.

A test was made in which a car equipped with a dry-ice system of refrigeration, with only one moving part (a float valve), was held for 10 days with an outside temperature of 85° F. The test indicated that, from the standpoint of temperature maintenance, dry-ice refrigeration was on a par with mechanical methods of refrigeration, but that the cost of the dry ice used—12,000 pounds—was \$437.32, as compared with only \$158.70 for water ice and salt or for a mechanical



unit for refrigeration purposes. A further result of this laboratory test has been the adaptation of this system of refrigeration by the refrigeration-equipment manufacturer to motortruck trailers in accordance with the standards and specifications of design and construction recommended by PMA.

Work was continued to provide uniform temperatures at 0° F. for frozen foods transported in refrigerator cars by the application of different methods of refrigeration. Experiments were made with two types of mechanical refrigeration—one car equipped with gasoline-powered units which delivered cold air into the car under the floor racks, and the other operated by single Diesel engine which delivered the cold air over the top of the load.

In a number of tests of refrigerated motortrucks it was found that the mechanically refrigerated units had ample capacity, but because of inadequate floor and wall racks the cold air could not circulate completely around the load. This defect was corrected by the use of a return air duct and modification in the method of loading.

Transportation tests also were made of shipments of frozen poultry moving by motortrucks from the Eastern Shore of Maryland to Chicago and Detroit. One trailer was loaded and refrigerated in the conventional manner; the other was loaded according to a modified method and was equipped with a return air duct. It was found that the temperature in the latter trailer averaged about 4° colder than in the other.

Considerable progress was made in developing a handbook showing proper methods of transporting various agricultural commodities by motortrucks. This publication will deal with such subjects as pre-cooling, loading methods, transit temperatures, and other factors essential to the proper protection of the products.

A study of the transportation of grain by motortruck in the Southwest was completed and a report published. The report shows that the percentage of grain trucked by 117 elevators and mills ranged from 33 percent for country elevators to 16 percent for feed mills. The analysis showed that truck rates were substantially lower than rail rates between identical points; in some cases by as much as 50 percent. Upon completion of this report attention was shifted to developing an improved boxcar design and low-cost boxcar unloading equipment for the handling of grain. Satisfactory progress has been made in obtaining cooperation of manufacturers in designing the proposed new equipment.

A new-type container for lettuce and carrots, described in last year's annual report, has almost entirely replaced the other three container types formerly used in western producing areas. Performance of the new container under actual commercial conditions proves the ability of the new crate to reduce transit damage.

Approximately 1,700 cars of cantaloups were loaded "on-end," a method described in last year's report, with the result that breakage was reduced by about two-thirds and bruising by about one-half. Emphasis during the last year was placed on finding easier, less-expensive ways of loading, stripping, and bracing the on-end loads.

Research showed that adequate amounts of top ice in loads of broccoli, cauliflower, lettuce, and some other commodities will help prevent breakage in transit by holding the containers in place. Test shipments of broccoli in which no crosswise strips were used revealed

that the commodity could be shipped with no more breakage than with the usual method and with some savings in labor and materials costs. Research on cauliflower was aimed primarily at exploring the feasibility of using different types of containers to reduce transportation costs and the closer trimming of the heavy jacket leaves around the curd in such a way as to reduce the container and refrigeration costs per net pound of commodity shipped. Research on the transportation of celery was continued, eight transcontinental test shipments being made.

Research on the relationship between loss and damage in rail shipments of dressed beef and the relative amounts of shock and vibration received in transit was completed. The information developed in the test shipments, together with that developed in a previous survey of the loss and damage occurring in 3,400 cars, will be incorporated into a report.

Studies of the use of large, collapsible, reusable, pallet-type master containers to reduce the damage and handling costs now associated with the transportation of consumer-size bags of various commodities were continued.

Following a test of large, collapsible, wire containers, the type of container was changed, and test models of a new container of wood veneer and wire-bound construction were made. Although the new containers were not entirely satisfactory, they did carry the products to market in excellent condition and effected some savings in labor and other costs of loading and unloading.

### **Improving the Market News and Grading Services**

Analysis was completed and a report published on the practicability and usefulness of market news reporting of prices received by creameries for butter. The study revealed important differences between prices being reported in terminal markets and those received by creameries.

Four reports were prepared which list in detail the kinds of market news information being published by markets and areas for shell eggs, live poultry, dressed poultry, and dairy products other than butter and cheese. They show the basis of reporting being used in each market and reveal many opportunities for bringing about greater uniformity in market news reporting between markets.

Three reports were completed in cooperation with the Iowa State College on the study to determine the effectiveness of different means of disseminating market news information to farmers. One shows how Iowa farmers obtain and use market news, another the extent to which they depend on radio for market information and the changes that they would like in the information being supplied them, and still another, the extent to which farmers obtain market news from newspapers and what additional information they would like.

A tabulation of all the agricultural market news information carried in 1,765 daily English-language newspapers in the United States showed that the value of total space devoted to market news amounted to about \$5,700,000 per year. Two publications were prepared for use by Federal and Federal-State market news services and newspaper editors. One showed the distribution of this information by market news offices, by States; the other was a directory of newspapers with information on kinds of market news carried by each.

In cooperation with the University of Arkansas, a study was undertaken to develop and test the practicability of reporting local feed market news information. A survey of feed dealers was completed, and trial reporting of feed supply conditions and prices was undertaken in the two principal livestock and poultry feed areas of Arkansas.

A study was initiated on the accuracy and usefulness of market news on broiler and fryer chickens—the study involving interviews with poultrymen, buyers, and feed dealers in producing areas of Virginia, West Virginia, and North Carolina. These surveys will be continued in other major broiler producing areas, and a report prepared on the market news needs of each area.

A report, published during the year, was based on an experimental retail market news service in Baltimore and the experiences of State and city governments in reporting retail market news in Providence, Boston, New York, and Baltimore. The report—"Retail Market News As an Aid in Marketing" (MRR-19)—showed that there were many and sometimes large maladjustments between wholesale and retail prices, that retail prices frequently failed to adjust to prices received by wholesalers and producers, and that, as a result, there was no incentive for consumers to increase their purchases in such a manner as to remove excess supplies. Occasionally, when strengthened demand caused prices to rise at retail, these increases were not reflected in higher wholesale prices so that increased supplies might be attracted to the city.

The grocers receiving the retail market news reports prepared in Baltimore stated that the reports kept them up-to-date with competitive price changes and put them in a better position to determine what prices they should pay. Fifty-five percent of a representative sample of homemakers stated that they used the information in the news reports, and that they substantially increased their purchases of items shown to be the best values. The survey showed that 84 percent of the retail grocers, 49 percent of the Baltimore wholesalers, 39 percent of the processors, 28 percent of shippers to Baltimore, and 4 percent of Maryland and Virginia farmers who received the report made use of the information.

A review and analysis were made of the principles and practices followed in the development of standards for agricultural products, and a report was published which set forth for the first time the principles and practices being used. There are about 400 standards for grades of individual products promulgated by the Department of Agriculture. A directory prepared in 1948, listing all these standards and the terms used to indicate each grade, was brought up-to-date.

## COMPLIANCE AND INVESTIGATION

PMA acted during the year to prevent criminal and civil frauds; violation of regulations; noncompliance with laws, orders, and regulations; and other irregularities which tended to impair the integrity and weaken the effectiveness of PMA-CCC programs and operations.

Investigations and compliance surveys were conducted under commodity procurement programs; loan and purchase agreements; warehousing operations; storage facility programs; defense food orders; the International Wheat Agreement; agricultural conservation, cot-



ton, peanut, and tobacco marketing quota programs; fruit and vegetable marketing agreements and orders; the school lunch program; direct distribution activities; and export, subsidy, and diversion operations. In addition, accounting systems were installed and periodic audits were made of the books and records of milk market administrators, control committees, and others, where such action was authorized or required. Assistance was given to the Office of the Solicitor of the Department of Agriculture, the Department of Justice, and various United States attorneys in connection with the preparation and prosecution of court cases.

Some of the more serious or recurring types of offenses involved the submission of false claims against the Government; conspiracies to defraud; forging or altering documents submitted to the Government; theft or conversion of Government-owned commodities; embezzlement of Government moneys; unauthorized disclosure of confidential Government information; ineligibility of various commodities for price support; breach of Government contracts; negligence of warehousemen and carriers resulting in the damage or destruction of Government-owned commodities by fire, water, or deterioration; false applications by vendors for payment for materials not actually delivered for agricultural conservation program use and substitution of other materials for those required to be delivered; false identification of cotton, tobacco, and peanuts to avoid payment of marketing penalties; and shortages of grain at CCC bin sites.

Special emphasis was given the cases involving commercial warehousemen who wrongfully appropriated CCC stocks of grain to their own use. Investigation reports containing pertinent facts concerning each warehouseman's acquisition and disposition of CCC grain were a requisite to necessary administrative, civil, and criminal action. (A discussion of grain conversion, and the establishment of new standards for approving, bonding, and inspecting warehouses starts on p. 8.)

A total of 1,348 investigations was conducted during the year. Ninety-one criminal indictments or informations were returned or filed. Fifty-three civil suits were filed and twenty-two adjudicated in favor of the Government. Seven injunctions were also obtained. In addition, 425 other cases were being processed at the end of the year by the Solicitor, regional attorneys, the Department of Justice, and United States attorneys for civil and criminal action.

Fines imposed in criminal cases totaled \$34,950; jail sentences meted out aggregated more than 11 years; suspended jail sentences were 4½ years; and probationary time imposed was almost 23 years.

Recoveries of money fraudulently or improperly obtained from the Government totaled \$949,430. Savings—claims made against the Government but not paid—amounted to \$274,260. Collections of delinquent loans, liquidated damages, and penalties amounted to \$734,835. The grand total of fines, recoveries, savings, and collections was \$1,993,475.

### AUDIT ACTIVITIES

PMA continued to conduct an intensive internal audit program during the year. A broadly constituted internal audit program provides not only information on financial transactions, but also objective views of the manner in which policies and procedures, whatever their

nature, have been carried out. Recommendations for improvement are a very important part of the over-all audit program.

More than 2,000 audit reports covering all phases of PMA-CCC operations were made during the year. Of these 192 reports covered operations of 9 PMA commodity offices and contained more than 700 recommendations, and 128 covered PMA State and county offices and contained 1,582 recommendations.

Other audits were made as follows: Schools under the national school lunch program, 1,052; State educational agencies, 168; State distributing agencies that distribute section 6 and section 32 commodities, 69; area and insular offices, 10; distributing agencies that distribute section 32 commodities only, 13; agreements under the Agricultural Marketing Act of 1946 (RMA, title II), 8; inspection and grading offices, 36; terminal market offices, 28; cooperative agreements with State departments of agriculture, covering inspection of fresh fruits and vegetables, 6; warehouses under storage guarantee agreements, 73; tobacco cooperative associations, 8; peanut cooperative associations, 5; reconciliations of CCC capital and administrative funds, 128; other, 100. These reports also contained a large number of recommendations.

Because of the failure of some warehousemen to deliver promptly CCC-owned grain when ordered for shipment, an audit was made of more than 400 warehouses throughout the Nation. These audits disclosed over 50 material shortages amounting to more than \$4,000,000 in value. These cases are in various stages of settlement, investigation, or prosecution. (A discussion of grain conversion, and the establishment of new standards for approving, bonding, and inspecting warehouses starts on p. 8.)

## ORGANIZATION OF THE PRODUCTION AND MARKETING ADMINISTRATION

The Production and Marketing Administration was created by Secretary's memorandum 1118, of August 18, 1945, under authority of section 22 of title 5 of the United States Code, Executive Order 9577, issued June 29, 1945, and related Executive Orders.

The Production and Marketing Administration is responsible for programs relating to (1) defense functions delegated to the Secretary in Executive Order 10161 of September 9, 1950, with respect to food, farm equipment, and fertilizer; (2) agricultural conservation; (3) adjustment, including acreage allotments and farm marketing quotas; (4) price support; (5) foreign supply; (6) foreign purchase; (7) surplus removal; (8) stabilization of sugar production and marketing; (9) International Wheat Agreement; (10) school lunch; (11) marketing research; (12) marketing services, including market news, standardization, grading, inspection, and classification; (13) marketing regulation, including marketing agreements and orders; and (14) transportation and warehousing.

Personnel and facilities of PMA are utilized in the administration of Commodity Credit Corporation programs.

The Washington organization of the Production and Marketing Administration consists of an Administrator, a Deputy Administrator, and Assistant Administrators for Production, Marketing, Commodity Operations, and Program Coordination, 9 commodity branches en-



gaged in the administration of PMA's programs affecting or involving their assigned commodities and responsibilities, and 14 functional and staff branches or offices which are responsible for specific programs or functions affecting or relating to all commodities.

The nine commodity branches are: Cotton; Dairy; Fats and Oils; Fruit and Vegetable; Grain; Livestock; Poultry; Sugar; and Tobacco.

Branches which are responsible for specific programs or functions are: Agricultural Conservation Programs Branch; Fiscal Branch; Food Distribution Branch; Marketing and Facilities Research Branch; and the Transportation and Warehousing Branch.

Offices responsible for assigned administrative and staff functions are: Office of Materials and Facilities; Office of Requirements and Allocations; Office of Price; Office of Information Services; Office of Audit; Office of Administrative Services; Office of Budget; Office of Compliance and Investigation; and Office of Personnel Management.

PMA State and county committees are key units in PMA's field organization. Through the farmer-elected county committees PMA obtains recommendations and advice in the formulation of policies and program plans. State and county offices are also responsible for local administration of such national programs as agricultural conservation; production adjustments; price support and related operations; Sugar Act payments; and other programs requiring direct dealings with farmers and other agricultural interests.

There are eight PMA commodity offices, located in Chicago, Dallas, Kansas City, Minneapolis, New Orleans, New York City, Portland (Oreg.), and San Francisco, which are responsible for field transportation and warehousing, fiscal, and commodity procurement and merchandising functions within their assigned areas. In addition, most of the commodity branches, as well as several of the other program and staff branches and offices, have field offices which carry out program operations relating to inspection, grading, marketing services, and regulatory activities.